







T. D. Munnicutt

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PSYCHOLOGY FOR THE WRITER



# PSYCHOLOGY FOR THE WRITER

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H-M



TO  
MY FATHER AND MOTHER





*The knowledge of the world is only to be acquired in the world, and not in a closet. Books alone will never teach it you; but they will suggest many things to your observation, which might otherwise escape you; and your own observations upon mankind, when compared with those which you find in books, will help you to fix the true point.*

—Lord Chesterfield, LETTERS TO HIS SON



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## *Preface*

**T**HIS book was undertaken because there seemed to be need for a systematic treatment of modern psychology as applied to literary creation and appreciation. Writers ought to know as much as possible about human nature. In the main that knowledge can be acquired only by rubbing shoulders with life, by eating and sleeping and loving and hating and enjoying and suffering in the normal human fashion. The mental equipment thus acquired, however, is likely to be biased and narrow, for we can see only from where we stand. It is also unorganized, for in the school of life there are no set lectures, no carefully formulated rules, no neat analysis charts to make the lessons clear. Personal Psychology needs to be supplemented. As H. G. Wells has recently expressed it, "Nothing leads so straight to futility as literary ambitions without systematic knowledge."

It is the work of the professional psychologist to supply this organized approach to human nature. He must try to see man clearly and to see him whole. He must put aside prejudice, emotional bias, the love of the dramatic instance. He must bring together from many sources careful observations of human behavior. He must experiment, test, make exact measurements. He must painstakingly establish facts and in those facts discover principles and laws.

For over half a century the psychologist has been

actively at work and there has been steadily accumulating a body of information of interest and importance to writers. Unfortunately the results of scientific study are usually given a decent but obscure burial in the narrowly circulated scientific publications. For the average student they are like rich mahogany logs lying in the midst of a South American wilderness. The problem of transportation is a major one.

The object of the present work is therefore twofold. First, it aims at the presentation of a unified way of looking at human nature. Second, it attempts to open up this pioneer field, the scientific study of human behavior in relation to writing.

Most of this material was originally utilized in a course in psychology for writers, given in Columbia University Extension. The author desires to express his thanks to the students of that course, both for cooperation in the collection of material, and for the appreciation and encouragement which led to the preparation of this book.

In the presentation of the lecture material in book form the matter of tone or attitude has been a most puzzling problem. Writers have been the devil and the psychologist has been the deep sea. The Personal Psychology in which writers are most interested is merely "human nature stuff" to the scientist. Psychology as the professional student of the subject knows it is usually dull reading for the layman. It requires a nice discrimination to strike a middle ground satisfactory to both parties.



Because of the nature of the subject and the method of approach, the book is largely a compilation of ideas and results taken from many sources. The author has tried to give full credit for all material thus borrowed, but it is possible that unintentional omissions of source references have occurred, and this opportunity is taken to beg indulgence for the oversight.

H. K. N.



# PSYCHOLOGY FOR THE WRITER



## CHAPTER ONE

### THE PSYCHOLOGIST'S BAG OF TRICKS

"YOU FIEND!" exclaimed the Duchess. "How dare you kiss me!"

Such, if we may believe tradition, was the ideal first line proposed by a "psychologist" when asked to give an opening for a story that would grip attention and foster interest.

Here was a man who was trying to apply his knowledge of human nature. He knew that an exclamation gets attention. He knew that most people are interested in the nobility. He knew that everyone is interested in sex. He tried, successfully or not, to cram an appeal to all of these into one short sentence. He was an applied psychologist.

Let us consider another illustration. Mr. James Gleason, author of "Is Zat So" and "The Fall Guy," recently addressed a class of would-be playwrights at a large university. Some one asked him for his recipe for a sure-fire laugh.

"It's the situation laugh," he replied, promptly. "The trick-business laugh and the gag-line laugh are all right, only you can't tell. But when you build up to a situation with a laugh in it you've got 'em. They bite every time.

"George M.," said he, reverently—"George M. has the trick. Why, he'll start way back in Act I with a situation. Say a man drops his hat. Well, there's



no laugh in that. Then he drops his hat in Act II. And there's no laugh in that. But when he drops his hat in Act III and another character looks at it and kicks it off the stage—well, the bimbos out front think they're clever to remember all the way back to that dropped hat in Act I and Act II, and they roar. It's a wow.

"A man who'd written a couple of hundred vaudeville sketches once told me this," he went on. "'You gotta bring the curtain up with a laugh; you gotta play along and tell your story. You gotta bring in a tear just about one minute before the curtain comes down and that curtain has gotta come down with a laugh.' Well, that's what you've got to do with a play, and to make it a sure-fire play you've gotta do that for every act of a play. And if you'll remember that business of the hat, building up and tracing back with little things like that, the whole thing'll hang together and you've got a play.'"

Certainly there was never a bit of didactics more racy of N'Yawk than James Gleason.<sup>1</sup>

Here we see in action another man's theory of human nature. It is a good example of what we shall call Home-made Psychology. Such psychology is universally employed. We begin its study with the first wail from our infant lungs. That wail in some mysterious fashion brings us food and warmth and attention. Soon we have learned that we can get these comforts by our squalls. We have acquired a technique for influencing people.

Little by little we add to our technique. We try

<sup>1</sup>The *New York Sun*, May 1, 1925.

out trick after trick, adopting and making permanent those that work, discarding those that fail. If pouting works, we pout. If sulking works, we sulk. We learn the effect of a smile, a frown, a blow, a caress.

Almost unconsciously we acquire the knack of using these and hundreds of other devices in getting what we want. We learn to plead, to cajole, to argue, to flatter, to threaten, to abash, to direct, to interest, to explain, to instruct, to inspire. We also laboriously acquire a bag of tricks for special fields, and thus become skillful as orators or salesmen or as playwrights, like Mr. Gleason. We have a Home-made Psychology.

Nine-tenths of the world's supply of applied psychology is of this home-made variety. Like many semi-necessities, it is not uniformly distributed, some people seeming to have but a small amount, while others have more than their fair share. The great demagogues, the clever publicity seekers, the masterful salesmen, are recruited from this latter group. Their stock in trade is a keen perception of human motives and a repertoire of tricks for taking advantage of that perception.

Writers as a class are far above the average in their home-made equipment. The values in which they deal are largely psychological. The perception and manipulation of these values are almost universally the result of prolonged experimentation and slow accumulation of sure judgment and skill. The capacity for such accumulation is probably in part a native endowment.

The trouble with Home-made Psychology is that it cannot be taught to others. Each novice must learn the tricks for himself. It is like skating and dancing. One may sit on the side lines, watching the teacher, and learn but little. One may listen to patient lectures from the expert with only an illusion of gain. To learn, one must do.

Consider the case of our amateur who listens so attentively to Mr. Gleason's *ex cathedra* pronouncement. He is especially impressed by the hat trick. He jots down his notes in full, recording the exact words of the master. He has an illusion of power. He has learned a new device. He dashes off to his study to write a play about a dropped hat, a play that will shake the bimbos out front until they roar with laughter.

Unfortunately, it is not as simple as it seemed when Mr. Gleason explained it. Our ambitious novice sweats his way to the final curtain, bravely sticking through thick and thin to that hat trick. The play is about a poor old mother who has been deserted by her ungrateful children, and now, ill and poverty-stricken, is just on the verge of going over the hill to the poorhouse. In Act I she drops the hat, the pert little hat that she wore on her wedding day. She drops it again in Act II, and again in Act III, and then the great hulking villain kicks a goal with it. Now for the roar of laughter from the audience. They remember all the way back to the dropped hat in Acts II and I and they think they are clever, and so they laugh.

But do they? Of course not. It is not just the dropped hat; it is the setting in which the trick is carried out. The poor old mother dropped the hat and that makes the situation entirely different. That takes the laugh out and puts in something dangerously close to tears. But how was our amateur to know that—unless he just knew it. Mr. Gleason said nothing about it. He said nothing about it for the reason that he assumed that anyone with common sense—that is, with the ordinary equipment of Home-made Psychology, would know that an audience does not laugh at the character it pities. As a teacher he had to assume that his students had this ordinary, background knowledge of what will and what will not work in human nature. He could only give a specific device which he had found effective if used in a certain manner. Perhaps one student out of ten in his audience possessed the psychological background essential for the practical use of this device.

All this is another way of saying that the writer who wishes to learn psychology must start by increasing his own home-made stock. It is the basis for all practical application. Without it all of the text books and all of the lectures in the world are so much trash. Skill in dealing with human nature is only to be acquired by practice. Rules and admonitions may be of the greatest value to the journeyman and to the expert; they are dead wood for the novice until he has painfully acquired for himself the background for their appreciation. The admonition

concealed in the just preceding sentences is not an exception to this statement.

#### POPULAR PSYCHOLOGY

There are three leading brands of psychology on the market. The first, or home-made, brand we have just discussed. The second brand we may speak of as Popular Psychology.

Since the beginning of social life we have been accumulating ideas about human behavior. These become incorporated to form our loosely organized popular beliefs. Everyone knows, for example, that a square jaw indicates will power, a high forehead is a sign of intelligence, that women are by nature better and purer than men, that people with long, slender fingers are artistic in temperament, that the marriage of cousins is practically certain to result in mentally deficient offspring, that green-eyed people are untrustworthy. We know these things in the same way that we know about the evil effects of spilled salt, black cats, Friday and the thirteenth. They are matters of popular knowledge, dating back hundreds of years to obscure origins in the busy imaginations of would-be psychologists of earlier days.

This Popular Psychology, since it is the expression of theory rather than of a technique for practice, is almost certain to be hopelessly wrong. Its truth or falsity has little to do with its persistence. Far more important is its imaginative appeal. Plenty of feeble-



minded individuals have high foreheads, but the association of size of forehead with intelligence is so graphic and understandable that it will be a long time before the world will give it up. So with hundreds of other fundamentals of Popular Psychology. As beliefs they probably do no more harm than does a simple faith in fairies or in Santa Claus.

It is the business of the writer to know and appreciate this Popular Psychology without believing in it. These bits of ancient superstition, worn trinkets from the childhood of the race, are to him so much material about human nature, to be studied and used as such. Does a plantation negro believe in voodoo? Very well, put that into a story. Does a busy Wall Street broker carry a luck-piece to ward off evil? Perhaps there is a plot in that, or material for a magazine article. A good book on anthropology should be on every writer's bookshelf.

Knowing the literary value of material of this kind is one thing; expressing it in serious writing as established fact is quite another. For the journalist especially it is becoming increasingly important that he have sufficient scientific background to enable him to detect false psychology. The public is becoming better educated, and while it will still swallow a considerable amount of nonsense, gross superstitions will not pass unchallenged.

It is in the border-line field between Popular Psychology and real science that the writer is especially likely to go astray. For example, in a discussion of



the poetic nature Marguerite Wilkinson has the following bit of drivel:

The poet can taste blue and hear yellow, and that with ludicrous vividness. He can touch light and hear moisture and see flavors proclaiming themselves. For him it is no untruth to say that "the dawn comes up like thunder." And if this be true of sense impressions, what shall we say of the things that transcend the senses? If you have a friend who is a poet, and if you do not wish him to know what you are thinking, do not think too loud when you are with him, lest he overhear your thoughts as you might hear his words.<sup>1</sup>

The abnormality she is talking about in this paragraph is known as "synesthesia." It occurs in some form in about 10 per cent of the population. There is absolutely no evidence to show that poets are more afflicted with it (for it may be an affliction) than are other occupational groups. There is no reason to believe that it would be of the slightest value in the process of poetic composition.

Such fanciful ideas have their roots in the rich mold of dead ideas about poets and children and fools and drunkards and sprites and goblins. Recognized as imaginative pictures, they are harmless enough and may be beautiful and expressive in symbolic form of some elemental truth. But as attempts at understanding the poet's mind, so that we may encourage its fruitful development—as the basis for

<sup>1</sup> Wilkinson, Marguerite, *The Way of the Makers*. The Macmillan Company, New York, 1925.

an applied science—they are so much black superstition. The writer should appreciate this difference.

#### SCIENTIFIC PSYCHOLOGY

The third brand of psychology we may designate as the Scientific. It constitutes man's attempt to present in an orderly manner the known *facts* about human behavior. Since the writer is chiefly interested in writing about or in appealing to human beings, one might infer that he and the scientific psychologist would be inseparable in their happy labors. To date, however, their relationship has been a much more casual one. We must pause a moment to inquire into the reason for this condition.

It is likely that the fault rests largely with the professional psychologists. Ben Hecht once said that all the psychologies have been written by third-rate hack novelists. The statement is hardly fair, but it is certainly true that most psychology as written has not been especially interesting or even remotely useful to the practical man.

Let us consider an example. Toward the end of the last century there flourished in Germany a great psychologist of the scientific type, one Wilhelm Wundt. He founded a psychological laboratory and trained students who later came to be the leaders of the new science in America. His experimental work and his writings have tintured much of present-day psychology. Suppose that in our search for something for writers we dip our nets into his famous

*Outlines of Psychology.* Here is a tidbit fished out at random:

The fusions formed between qualitative local signs and inner tactful sensations when we change from the fixation of a more distant point to the fixation of a nearer or the reverse, may be called complex local signs of depth. Such local signs form for every series of points lying before or behind the fixation-point, or for every regularly extended body which is nothing but a series of such points, a regularly arranged system in which a stereometric series of points located at a particular distance is always unequivocally represented by a particular group of complex local signs of depth.<sup>1</sup>

Imagine Alfred Lord Tennesson, who was a contemporary of Wundt, trying to squeeze something out of that to put in a poem! How helpful such a psychology would have been for our own Longfellow! Browning might have done better—it is more after his own style—but even he would have found Wundt lacking in helpful suggestions.

We may let Wundt and the passage just quoted stand for one very important group of psychologists. Now the point is, of course, that Wundt probably did not care whether poets or writers of stories understood him or profited by his scholarly work. He and the other pioneers in the science of psychology did not give a fig for poets and such. They wanted to develop a science, and their science was to them, as

<sup>1</sup> Wundt, Wilhelm, *Outlines of Psychology*, tr. by Charles Hubbard Judd. Engelmann, Leipzig, 1907.

to Gottlieb in Sinclair Lewis's *Arrowsmith*, something holy, a thing apart. "Thank God!" exclaimed one. "My science is a pure virgin who has never been prostituted to the base uses of trade."

Scientific Psychology thus grew up very prim and proper and pompous. Being an offshoot of philosophy, she naturally turned her hand to much that the practical man dubbed academic and uninteresting. Dorsey, in *Why We Behave Like Human Beings*, remarks that in college, of all the 'ologies he studied, the one that gave him the least light on man and himself was psychology—excepting, possibly, mineralogy.

#### THE AWAKENING OF PSYCHOLOGY

Binet and Freud, Watson and Coué, broke the spell that was upon psychology and awoke the slumbering princess. How these men would enjoy being thus bracketed together! We must hasten to say that we have named them simply as leaders in certain energizing movements in psychology; many other important men have contributed to this process of awakening.

Binet was a French psychologist who at the beginning of this century was busying himself with the practical problem of devising a scientific way to learn something about the intelligence of children in the schools of Paris. He happened to hit upon a clever idea, that of mental age as something to be

considered and measured independently of chronological age. Thus a boy might be actually but ten years old, but the equal in mental performance of the average twelve-year-old. Binet devised tests to differentiate between age levels. These tests caught on. They had a vogue. Other mental-testers were busy turning out their own particular models. The technique of testing was developed. The war came, and by some lucky chance the United States government allowed American psychologists to use tests to divide the incoming recruits into something approaching mentally equal military units. This was startling. It was news. The country heard about it. It was wonderful publicity for psychology. Moreover, a number of young men were pulled into the work of devising and administering the tests. Their attention was directed to the possibility of applying their science. All this bred a broader attitude among professional psychologists. It made psychology more human.

At the same time psychoanalysis was getting psychology on the front page, but in a very different way. Freud, Jung and Adler, but the greatest of these is Freud. These three and their followers developed what has been called the new psychology. Since we shall discuss their work in detail in later chapters we must content ourselves here with but a glance at the part they have played in the general awakening.

Psychoanalysis interests most people because it



deals with sex, and sex is one of the most interesting things in the world. Psychoanalysis has made it possible for thousands of over-inhibited people to enjoy reading about things that would have been banned if presented as literature but which passed the censor when put forth as science. Naturally, this new psychology became widely popular.

Within the fold of legitimate psychology psychoanalysis has achieved a certain popularity and for quite a different reason. It is its peculiar merit that it presents a working hypothesis to explain many things in psychology that had heretofore been obscure. Medical men and psychiatrists have in particular been attracted. This has stirred up a greater general interest in psychology as a whole. It has been good publicity.

This brand of psychology has managed to catch the attention of a considerable number of fiction writers and journalists. Indeed, it is the only aspect of scientific psychology that some writers know anything about. Complexes, wish-fulfillment, censor, libido, repressions—these and a dozen other terms from psychoanalysis are finding front seats in the writer's vocabulary. The concept of symbolism, upon which psychoanalysis rests so heavily, is working its way into present-day literature at an astonishing rate. Two recent plays, for example, the phenomenally successful "Rain" and "Bride of the Lamb," have employed the symbolic dream as a part of the plot. Writers are turning to books on psychoanalysis, es-



pecially those dealing with case histories, as gold mines of plot material. Magazine-article writers are finding the Freudian formulas useful. The reflex effect of all this interest is being felt by the scientific psychologist. It is contributing to the general awakening.

And then there is behaviorism. Nothing wakes people up like a good fight or a little fright, and Watson and the behaviorists have managed to inject a bit of both into the humdrum round of academic psychology. Beginning about 1912, Watson started to shake down the walls of the temple—and then to build a new temple of psychology for himself. The psychology of Wundt and his followers and of academic psychologists in general had been largely of the introspective variety. It was interested in mental states, their organization and classification. Watson rather loudly announced that such a psychology was so much mumbo-jumbo. He proposed that instead of studying mental content the psychologist should turn his attention to the study of objective, observable behavior. He advocated throwing overboard a great deal of the old terminology. He was, in general, thrillingly iconoclastic.

A lively dog fight on the street always brings its crowd. A good war is a great aid to newspaper circulation. In like fashion the fight over behaviorism has served to arouse popular interest in psychology. People want to know what all the shooting is about. There is a practical hint here for the writer who wants to interest his audience.

## WILD-CAT PSYCHOLOGY

Binet and the mental testers, Freud and the psychoanalysts, Watson and the behaviorists, each of these groups contributed something to the science of psychology, while doing much for its popularization. We now come to a group of men who have contributed relatively little to the advancement of the science, but have given psychology a certain amount of notoriety. These are the Wild-cat Psychologists and today their number is legion.

We have placed Coué at the head of the group, but we might equally well have chosen half a dozen active gentlemen—and ladies—who are today engaged in selling the credulous public huge quantities of fake science. They are flooding the market with all manner of "courses," character-analysis schemes, weird semi-religious theories. Their chief distinguishing mark is their willingness to offer 100-per-cent return on a very small investment. Wealth, health, power, peace, and plenty—these and a thousand other desirable things are waiting for the true believer who will send three dollars, or whatever the sum may be.

There is little need to point out that Wild-cat Psychology holds nothing for the writer except an interesting insight into the gullibility of the great mass of the population. The touchstone by which he may test any psychology is by its offer of returns. If it promises much for little, then it is of the Wild-cat variety.

## WHAT IS THERE IN PSYCHOLOGY FOR THE WRITER?

To summarize the preceding paragraphs, we have now seen that there are three great brands of psychology, the Home-made, the Popular, and the Scientific, with the Wild-cat brand coming in as a kind of camp-follower. We have noted that each of the three standard psychologies has something to contribute to the theory and practice of writing. We have hinted that while in the past the Scientific brand has been of relatively little use for writers, its promise for the future is very great. Along what lines will this contribution be made?

Professor June Downey, who has been a pioneer in the attempt to build up a psychology for writers, has indicated her idea of the probable lines of development in an interesting article on "A Program for a Psychology of Literature."<sup>1</sup> This program anticipates four principal avenues of approach, as follows:

1. General psychological points of view significant for literary criticism and comprehension of the different forms of literary production.
2. A listing of a few of the possible experimental investigations that have a specific application to the psychology of literature.
3. Suggestions as to possible diagnostic tests of literary ability.
4. Considerations of possibilities in the way of stimulating literary invention by utilization

<sup>1</sup> Downey, June, "A Program for a Psychology of Literature," *Journal of Applied Psychology*, 1918, vol. ii, pp. 366-377.

of devices for initiating and controlling imaginative work.

Development of psychology along these trails is now actively under way. As an example, the recent work of Collins in *The Doctor Looks at Literature*, and *Taking the Literary Pulse* shows the influence of psychology on literary criticism. Experimental studies, especially those having to do with the processes of imagination and invention, are finding their way into popular literature, as witness the book on *Plots and Personalities* by Downey and Slosson. Tests of literary ability are now on the market. Not so much has been done in the study of ways of stimulating literary invention, but even there the work of the psychological laboratory is hinting at methods. A true psychology for writers is in the making.

For the purposes of the present work an analysis has been adopted which differs somewhat from that just quoted from Professor Downey. From experience in presenting the material to students in the classroom it has been discovered that there are two fundamentally different ways of approaching a psychology for writers. The first approach regards psychology as a *storehouse*. The second considers psychology as a *tool*.

The chapters that follow, therefore, are divided into two groups. In the first group we shall consider what this storehouse of psychology has for the writer. Our purpose will be the massing of facts about human behavior and the relating of those facts to the

problems of the writer. We shall acquaint ourselves with sources of information on psychological problems, with experimental data of interest and use.

When we turn to psychology as a tool our interest will be to draw practical conclusions from the facts that we have acquired. Psychology as a tool means psychology in practice. It is likely to have a very special appeal to the novice who wants to skip at once to the use of the material without the drudgery of understanding it. We would here drop the caution that a real scientific psychology for writers must be a slow development, that for a long time to come theory is certain to be more plentiful than technique. We must try to keep this branch of psychology free from the wild-cat taint.

## CHAPTER TWO

### WHAT MAKES MEN ACT?

WHAT makes men act? This is inevitably the key problem of an applied psychology. From Adam's puzzled speculations as to what made Eve do such idiotic things, straight on down to the latest attempt to explain the behavior of the criminal or of the flapper or of the business man, the constant effort has been to discover the springs of human action. For the writer, especially, a practical theory of motivation is of the utmost importance.

Let us see what some writers have thought on this subject. In a recent survey Hoffman<sup>1</sup> asked a representative group of writers what they considered the elemental hold of fiction on the human mind. Here are some of the answers:

"People read fiction, I suppose, for the sake of the emotions which it awakes in them."—BEN AMES WILLIAMS.

"The desire for emotional reactions greater than those the average life affords."—FREDERICK ORIN BARTLETT.

"Love, success, youth."—HOLWORTHY HALL.

"Sentiment, curiosity, heroism."—THOMAS SAMSON MILLER.

<sup>1</sup> Hoffman, Arthur Sullivant, *Fiction Writers on Fiction Writing*. The Bobbs-Merrill Co., Indianapolis, 1923. P. 373. Quotation by special permission of publisher.



"Fiction is the world of our dreams come true."—  
COURTNEY RYLEY COOPER.

"Putting yourself in his place."—EUGENE MANLOVE  
RHODES.

"It affords an 'escape'—the reader or hearer imagines himself in the tale."—SINCLAIR LEWIS.

"Maybe bread and butter, and love."—EMERSON  
HOUGH.

"It satisfies the social desire—the human love of knowing and, if possible, of liking, other people. And it gives the illusion of widened experience."—  
WILL IRWIN.

"Story-hunger, which is as strong as any of the other natural appetites."—FARNHAM BISHOP.

Behind these tabloid expressions are to be detected hints of the individual theories of motivation held by the writers. Ben Ames Williams believes that his readers want their emotions aroused. Holworthy Hall evidently thinks that his readers are motivated by a number of desires, of which those for love, success, and youth are especially strong. Farnham Bishop invents the rather crude concept of "story-hunger," suggesting the limitations of his personal psychology.

It is clear that these writers are agreed that *something* motivates the reader, but as to what that something is they are not in accord. That means that their individual theories must be either partial or false. Probably most of them are merely partial, each containing a grain of truth. Presumably, then, these

formulas are not of equal utility in forming the background for successful fiction-writing. Other things being equal, it is clear that the writer with the best and most complete theory will sell the most stories and please the most people.

#### THE RÔLE OF MOTIVATION IN CHARACTER PORTRAYAL

For the writer the problem of motivation cuts two ways. First, as we have just pointed out, he wants to understand the secret of motivating the public, so that his works will be read. Second, as a literary craftsman he understands that a keen appreciation of motivation is at the heart of sound character delineation. A word on this latter point is in order.

Let us suppose that a writer comes to his work with a deep-seated belief in the puppet theory of life—the idea that man is the helpless pawn of some outside force. Hardy affords a good example. In *The Dynasts* he most clearly expresses this theory. He believes in an immanent will which blindly and without conscious purpose drives through a mechanistic universe. The stamp of this belief is upon much of his work, coloring his whole portrayal of character and his construction of plot.

Contrast the work of Hardy with that of Dreiser, who also believes in the motivation of his characters by a force, but an inner one, the force of passion. For him there is little of reason and logic in human behavior, but much of desire, urge, lust. His char-

acters do what they do because of the "chemistry of their natures." The brute, the jungle man, is always near the surface.

It is difficult, of course, to tell from any particular work of an author to what extent he has expressed his own basic philosophy of human motives and to what extent he has adopted a temporary philosophy for the purposes of the work in hand. Inevitably, however, something of the writer's basic theory will infuse all that he writes. It is generally agreed that a fundamental test of the merit of writing is its capacity to express truth. We should be clear, then, that a writer will be judged good, in part at least, to the extent to which he has shown a broad and sympathetic understanding of the mainsprings of human conduct.

The critics have always recognized this effect of the writer's psychology upon his art, but no organized attempt has been made to show this for all ages and for many authors. Such an *anthology of motivation*, showing, by examples from writers of all periods, the theories of conduct that have prevailed, would be of the greatest value. Mirrored in such a collection, each of us would find the tag-ends of belief we have picked up and woven into our own half-conscious formula. The resultant clarification of thought might at first be devastating—we are apt to pride ourselves on being very modern—but in the end it would be salutary.

In the absence of an anthology such as we have just described it may be useful to present what is admittedly a sketchy preliminary outline. The critic

may not agree with the examples given under each heading, for different readers are struck by different aspects of a writer's work. That need not destroy the value for the student who is concerned with getting a general picture of theories of conduct.

## THEORIES OF MOTIVATION FROM LITERATURE

### I. EXTERNAL FORCES OR AGENCIES SUPPOSED TO INFLUENCE THE CHARACTER

#### A. *The Supernatural as a Source of Behavior.*

Man's earliest theories of motivation were animistic. The savage peopled the world about him with a host of spirits, good or evil, who animated everything, himself included. With greater civilization came modifications of this idea and the development of concepts such as those of God, the devil, and a host of other less clearly defined spirit forces.

From the beginning of literature this idea of the supernatural as guiding human destiny and motivating particular acts has had a strong appeal to writers. We find it appearing everywhere. Goethe uses it in *Faust*. Shakespeare employs it again and again. Robinson Crusoe knows he is "in the hands of God, whose will must prevail." Modern echoes of it appear in *The Servant in the House* and *For All of Us*. The student who desires an example of this theory expressed in its most comprehensive form should

turn to Mather's famous *Sinners in the Hands of an Angry God*.

Presenting a somewhat different aspect, we may note such productions as *The Horla* by De Maupassant. Here the individual is possessed by the spirit, in this case an evil one. One finds in all literatures such tales of demons.

Closely related is the conventional concept of the spirit that haunts a particular house and influences the lives of those therein. Hawthorne's *The House of Seven Gables* will serve as an illustration. Poe was a master in this use of the supernatural. We find it, of course, in countless ghost stories and in some modern detective fiction.

### B. Fate as Guiding Man's Destiny.

Fate, Providence, Destiny, Luck, Chance—since the beginning of thought man has posited some such blind force operative to make or unmake the fortunes of the individual. Most people believe that there is a tide in the affairs of men, that opportunity knocks but once, that fortune smiles or frowns. Omar chanted the omnipotence of destiny. Hardy, as we noted, fills his novels with a sense of its brooding force.

### C. The Environment as the Molding Force in Behavior.

Other writers have been impressed by the part played by environment in determining the acts of the



individual. Grey saw the village Hampdens submerged by the setting in which their abilities were wasted. For Hawthorne the Great Stone Face was a kind of force, molding the character of Ernest.

*Social pressure* constitutes one important source of environmental influence frequently utilized. The growth of the character of Jean Valjean affords a good example of this. To take examples from modern fiction, *Main Street* and *Babbitt* give clear pictures of the twisting, perverting effects of this pressure.

*Custom* is a particular form of special pressure that deserves mention. Some lives seem caught up in its close meshes. *The Squirrel Cage* by Dorothy Canfield Fisher presents an admirable illustration.

*Training* as an environmental force has not been overlooked by writers. Dickens, perhaps more than most, affords examples in abundance. We have only to call to mind the pathetic figure of Oliver Twist to appreciate this point of view.

## II. FORCES OPERATING WITHIN THE INDIVIDUAL TO INFLUENCE HIS CHARACTER AND BEHAVIOR

### A. *Heredity.*

While not as universally invoked by the literary man as some other theories of motivation, heredity has not been overlooked. In his recent volume on *Taking the Literary Pulse*<sup>1</sup> Collins has an interesting

<sup>1</sup> Collins, Joseph, *Taking the Literary Pulse*. New York, George H. Doran Company, 1924.

chapter on heredity in fictional literature, with examples from the writing of Ibsen, Dostoievsky, Zola, Hergesheimer, and others.

In this connection the occasional use of the strictly unscientific theory of *prenatal influence* to explain behavior is worth noting. There is an example of this in *Peer Gynt*, where Ase explains some of Peer's characteristics on the basis of her experiences while pregnant. To be classed under the same heading are the unscientific theories of *atavistic impulses*, hangovers from the history of the race. Jack London employed this concept in some of his stories.

### B. *The Unconscious.*

The unconscious, especially in recent years, has been adopted by some writers as their source of motivation. The work of the psychoanalytic school of psychology has been influential in fostering this concept, though the idea of a second or submerged self, sitting back in the dark corners of the mind and guiding conduct, is not especially new.

### C. *Emotion, Passion, Instinct.*

Passion, Desire, Urge, Want, Instinct, Emotion—these and kindred terms have been used since the beginning of literature to express the observed fact that much of man's conduct is impulsive. It is interesting to note that in general these passions, these lusts and appetites, have been considered as a rather low



source of behavior, but their power has nevertheless been widely acknowledged.

Of these impulses, Love, Hate, Greed, Jealousy, Fear, Lust, Anger, Pride, Curiosity, Sloth, Imitation, Hunger, and Thirst have been among the most frequently used. It is not unusual to make a character the personification of one of these; thus we have Shylock for Greed, Othello for Jealousy, Cyrano for Pride. *Pilgrim's Progress* shows what can be done with this idea. It is said that a successful writer of modern best-sellers first writes his novels using these names of abstract tendencies in the place of characters; when his story is completed he goes through and substitutes proper names.

#### D. Reason.

Reason has traditionally played the part of chief antagonist to the baser passions just mentioned. Dating back at least to Aristotle, we have this enthronement of the "mistress and queen of all things." It is firmly established in popular psychology that man is the reasoning animal, though Locke remarked that to be rational is so glorious a thing that two-legged creatures generally content themselves with the title. One may find in Butler's *The Way of All Flesh* an interesting comment on the relation of reason to the more purely animal side of man's nature.

Along with reason we might speak of *intelligence* as a guiding principle. Our detective fiction especially likes to make much of intelligence, while occa-

sionally, as in *The Idiots*, its absence is significant for conduct.

### E. Will.

Will occupies a position analogous to that of reason in popular and literary psychology. As in Henley's *Invictus*, many have sung the power within the individual that under the bludgeonings of chance keeps him yet unbowed. Strong-man stories like to play up the potency of will. The recent novel, *Power*, by Arthur Stringer, is an example. Implied in most modern writing is the idea that the characters are free to will, to choose their path of action. In this connection *conscience* deserves mention as an inner force closely allied to will, powerful to guide the individual through his moral difficulties.

### F. Beliefs, Ideas, Ideals.

Beliefs may be potent in conduct, as Galsworthy shows us in *Loyalties*. George Eliot seems to have been impressed by the compelling power of the fixed idea, and we find her theory finding expression in the fanatic zeal of Savonarola, in the idealistic devotion of Daniel Deronda to his vision of a united Jewish nation, and elsewhere in her writings. Dickens also affords examples, and we have the optimistic trust of Mr. Micawber that something would turn up, paralleled by the equally pessimistic idea of Mrs. Gummidge that she was a poor lorn creature.

### G. *Habit.*

In *John Barleycorn* Jack London drew a powerful picture of the strength of a habit in making over human conduct. Years before, De Quincy in his *Confessions of an English Opium Eater* had painted the same picture. From a slightly different angle, the blind return to his shoe-making of the demented Dr. Manette in the *Tale of Two Cities* illustrates the molding force of habituation.

### H. *Physiological State.*

The physiological state of an individual influences his behavior, as every writer knows who has tried to turn out his daily stint while suffering from a headache or a cold or while under the influence of some drug. In literature indigestion brings pessimism and dreams; fever breeds delusions; hunger accentuates sensory keenness. General physiological disposition also plays its part. Cæsar would have men about him who are fat. An interesting modern twist to this physiological theory of motivation is to be found in Atherton's *Black Oxen*, in which the heroine's glands make her what she is.

### I. *Mental Abnormality.*

Lastly we must list pathological mental condition as a determiner of conduct. Dostoievsky's works come to mind in this connection. Dickens again and

again made use of mental deviation as an explanatory principle. Macbeth, Hamlet, and Ophelia might have stepped out of a text-book on the abnormal. Poe drew vivid pictures of madness. He in common with a host of writers exemplified in his own person some of the well-known forms of mental instability.

An inspection of this list of motives as they have been presented in literature will suggest the interesting manner in which the writing of any period has reflected the psychology of the time. When animism was the common belief, literature was full of references to spirits. Today, when psychoanalysis is having its inning, contemporary writing reflects something of that trend.

This leads us to the thought that when scientific psychology shall presently have pieced together the riddle of man's behavior and have settled down to an agreed theory of human motivation, we may expect literature to benefit by that achievement. The rough outlines of that agreed theory are already beginning to appear. We shall find it profitable to turn to their consideration.

#### THE MODERN SCIENTIFIC THEORY OF MOTIVATION

When we approach the discussion of the modern scientific theory of human behavior we find ourselves, as has been hinted, in a difficult situation, for the psychologist is as yet far from being clear in the mat-

ter. Man is very complex and our science is very new! Most applied psychologists would dodge the question of motivation for the present if they could. Since we must face the problem, let us recognize in the following pages a merely tentative formulation, made in the light of what seems the best modern information and subject to change with the accumulation of more experimental evidence.

We may begin with what has been called the *reaction hypothesis*. This hypothesis holds that all human activities, whether we are dealing with physical performances such as speaking, walking, eating, crying, smiling, or with mental performances such as thinking, remembering, perceiving, planning, are to be thought of as reactions to stimuli, following definite physical, chemical, mechanical laws. Put in another way, every human act is the result of the stimulus applied, plus the state of the organism at the moment of stimulation. By stimulus is meant any form of energy, such as light, sound, heat, electricity, pressure, which acts upon the human nervous system and produces a reaction. By reaction is meant the effect or change produced in the human organism by the stimulus, this change taking the form of release or transformation of energy.

It should be noted that this theory assumes that man is a mechanism and that human conduct is to be explained strictly in terms of what we call natural laws. Chemical and physical change, metabolism, excitation, transmission, reaction—these are the terms



which the psychologist uses in attempting to answer our question, What makes people act?

The mechanical nature of much of man's conduct may well be illustrated by what is called reflex action. We shall have something to say about reflexes later. For the present the pupillary reflex will serve as an excellent example. If a beam of light is thrown into the eye, the pupil of the normal individual promptly contracts. If the light is removed the pupil dilates. The reader who is not familiar with this reaction will do well to study it for himself by means of a hand mirror and a flashlight or study lamp. He will soon discover that this action is as truly mechanical as is the ringing of a door bell when the button is pushed. If the experiment is repeated a hundred times the last reaction differs no more from the first than does the hundredth ring of the door bell differ from a previous one. Voluntary effort cannot prevent this reaction to light. It does not occur spontaneously any more than do door bells start ringing of their own accord. This reaction is found in every individual in normal health. If, as sometimes happens, a person fails to show this reaction, it is invariably found that the nerves connected with the eye or with certain centers in the brain have been injured; in other words, the mechanism has been injured, just as a door bell might be put out of commission by a break anywhere in its circuit.

Because of our heritage of popular psychology, most of us have firmly fixed the idea that somewhere in the background of every act there must be a



“something”—call it spirit or soul or will or what not—that is the truly animating force. The history of scientific psychology has been one long story of the attempt to throw out this savage superstition and explain man’s behavior in terms of natural laws.<sup>1</sup> To that end it is helpful to begin our discussion with a clear understanding of the reflex. The appropriateness of calling it mechanical is apparent to anyone. The stimulus is applied, certain neural connections are made, the response occurs. Much of the mechanism we do not fully understand as yet, but the operation of a simple reflex, such as jumping at a loud sound or withdrawing from a painful stimulus, is certainly no more mysterious and no more difficult to explain than is the operation of a modern radio set. In either case, if we came to our task with a bent toward a “spirit” explanation, we would be able to find facts that seemed to fit in with our theory. In the case of the radio, however, if we advocated a spirit hypothesis we would be laughed at for our pains; too many people have built their own radio sets.

When we come to the higher, more complicated processes in human behavior the mechanical nature is not so apparent as in the case of the reflex just described. Nevertheless the scientist believes that even reasoning, thinking, and voluntary action are to be explained in essentially the same manner as the less complicated forms of reaction. Let us suppose

<sup>1</sup> See McDougall, William, *Body and Mind*, London, Methuen & Co., 1918. Also see Weiss, Albert Paul, *A Theoretical Basis of Human Behavior*. Columbus, R. G. Adams & Co., 1925.

that we had a machine, say such a device as an automatic switchboard, only much more complicated. Suppose we found in it many simple processes which we could understand and which we saw had a mechanical explanation. We would be justified in concluding that the more complicated parts of the machine, which momentarily eluded our complete analysis, would some day be found to operate on much the same general principles as the more easily understood elements. We are far from understanding all the complex workings of the human mind, but when the explanation is found it will be in natural terms.

#### THE HISTORY OF THE HUMAN MACHINE

Radio and the airplane and the submarine are complex things. To a savage who had never seen them they would be complete mysteries on their first appearance. To civilized man they are not mysteries because he knows how they developed. He knows their history. Such familiarity with the history of a machine clears up many questions as to how it works.

In the same way when we turn to an attempt to understand the human mechanism we find our thinking much clarified by a study of its origins. It is, of course, a commonplace that man is an animal, of the class of mammals and of the order of primates. The scientist in attacking the problem of man's existence concludes that he developed in the same manner as other living things, through long centuries of

struggle in which the unfit were eliminated, while individuals showing adaptive types of behavior were able to keep alive, reproduce more of their kind, and pass on their fitness. We may naturally expect to find in man, therefore, ways of adjustment which had their origin far back in the dim past when the race was struggling up from a lower level. If we are to understand human conduct we must keep this fact in mind. The man whose actions we are portraying in our story is not just John Jones, twenty-six years old, white, and American. In one sense he is thousands of years old, a savage from the jungle, for pre-historic ways of reaction lie just beneath the surface of the civilization which we see. This idea has been most clearly expressed by Robinson, from whom we quote the following:

Nothing is more essential in our attempt to escape from the bondage of consecrated ideas than to get a vivid notion of human achievement in its proper historical perspective. In order to do this let us imagine the whole gradual and laborious attainments of mankind compressed into the compass of a single lifetime. Let us assume that a single generation of men have in fifty years managed to accumulate all that now passes for civilization. They would have to start, as all individuals do, absolutely uncivilized, and their task would be to recapitulate what has occupied the race for, let us guess, at least five hundred thousand years. Each year in the life of a generation would therefore correspond to ten thousand years in the progress of the race. On this scale it would require

forty-nine years to reach a point of intelligence which would enable our self-taught generation to give up their ancient and inveterate habits of wandering hunters and settle down here and there to till the ground, harvest their crops, domesticate animals, and weave their rough garments. Six months later, or half through the fiftieth year, some of them, in a particularly favorable situation, would have invented writing and thus established a new and wonderful means of spreading and perpetuating civilization. Three months later another group would have carried literature and art and philosophy to a high degree of refinement and set standards for the succeeding weeks. For two months our generation would have been living under the blessings of Christianity; the printing press would be but a fortnight old and they would not have had the steam engine for quite a week. For two or three days they would have been hastening about the globe in steamships and railroad trains, and only yesterday would they have come upon the magical possibilities of electricity. Within the last few hours they would have learned to sail in the air and beneath the waters, and have forthwith applied their newest discoveries to the prosecution of a magnificent war on the scale befitting their high ideals and new resources. This is not strange, for only a week ago they were burning and burying alive those who differed from the ruling party in regard to salvation, eviscerating in public those who had new ideas of government, and hanging old women who were accused of traffic with the devil. All of them had been no better than vagrant savages a year

before. Their new knowledge was altogether too recent to have gone very deep. . . .<sup>1</sup>

#### IMPORTANCE OF AN APPRECIATION OF MAN'S HISTORY

Once we get this concept of the background of human history clearly before us, certain practical applications become apparent. In its long history the human mechanism has been subject to varying influences at different times. The gradual process of adjusting to these conditions has led to what we may think of as layers of growth. Certain types of action are very old in the race. The reflex is a good example. Reasoning, on the other hand, may be thought of as a comparatively new way of reacting. In general it is understandable that the oldest ways of reacting will be found to be the most firmly established and the most dependable. A road that has been traveled for thousands of years is easier to follow than a freshly blazed trail. It is significant that when the doctor suspects some fundamental disturbance in the behavior of his patients he hastens to make an examination of the reflexes. He tests the eye reflexes, the "knee jerk" (a reflex movement of the foot produced by a light blow just below the knee cap), and half a dozen other well-known responses. The physician knows that these are fundamental mechanisms in the individual and if they are found to be abnormal he suspects need of immediate attention.

<sup>1</sup> Robinson, James Harvey, *Mind in the Making*.<sup>1</sup> New York, Harper & Brothers, 1921. P. 82.



The concept of layers of growth has been elaborated by Robinson, from whom we have just quoted. He has dramatized the situation by saying that we have four layers of mind—the modern civilized mind on top, then the child mind, the savage mind, and the animal mind. That is but another way of saying that in all of us there are ways of reacting that had their origins at different periods. There is much of the child in all of us. If you scratch the cultured surface of the most sophisticated stroller on Fifth Avenue you will find the savage and the animal just beneath. Let such a one go hungry for a week and he will gladly eat raw flesh after the manner of his forebears. Let a great danger threaten—say a whiff of smoke in the theater—and he will trample his fellows in his panic. Let a war come to loose his shell of custom and he will maim and kill in maniac fury. Let him live for a time with the natives of an African tribe and he will fall into the way of their squalor and dirt and shiftlessness. Civilization is a veneer. One who builds on human nature must reckon on that fact. The leaders of men have rarely achieved their ends by cold reason and appeals to intelligence. Some one in explaining the secret of the power of William Jennings Bryan over large audiences has said, "He appealed to their 'gizzards.'" His trick—and it is the method of every man who moves others to action—was to strike at the more predictable, stable layers of human action—the layers of the savage and the animal.



## CHAPTER THREE

### MORE ABOUT MOTIVATION

#### SOME NOTES ON THE BEHAVIOR OF MR. X, A NORMAL ADULT

##### *Stimulus*

1. The alarm clock rings.
2. He is hungry.
3. The telephone rings.
4. A car rattles past.
5. The clock points to 8:10 A.M.
6. Some one blocks his path at the Subway.
7. The train is late.
8. The car lurches as it rounds a corner.
9. As he crosses the street an automobile back-fires.
10. His secretary says, "Good morning."
11. His partner tells a story.
12. A pretty woman enters the office.

##### *Response*

1. He wakes up.
2. He eats his breakfast.
3. He goes to answer.
4. He perceives what it is.
5. He starts for the office.
6. He becomes angry.
7. He is impatient and worried.
8. He balances himself automatically.
9. He jumps and looks around.
10. He replies, "Nice day, isn't it?"
11. He listens closely and laughs.
12. He is interested and watches her.

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|--|--|
| 13. The scrubwoman enters the office.  | 13. He nods to her, but pays no further attention.                               |
| 14. He is shown a picture of his partner's young son.  | 14. He smiles and is interested.   |
| 15. In lighting a cigarette he burns his finger.   | 15. He jerks his hand away from the match.                                       |
| 16. A company of soldiers, headed by a band, marches by. A man is carrying the flag.   | 16. He feels a great thrill of patriotism.                                       |
| 17. His secretary places a paper before him.   | 17. He automatically signs his initials.   |
| 18. He is hungry. That makes him think of food and that makes him think of the good dinners he had at the shore last summer. He remembers how hot it was then. That reminds him that winter is coming and that he has not bought his coal. He wonders if the price will be lower later on. He concludes not and decides to order coal at once. | 18. He reaches for the telephone and calls his coal dealer and places his order. |

In the last chapter we spoke of the reaction hypothesis and pointed out that human behavior may be analyzed into the stimulus applied and the response made. In the example just given we see how such an analysis may be made of the behavior of any given individual. Upon this analysis we shall proceed to build our theory of motivation.

Let us begin by pointing out that by this theory nothing "just happens" in human conduct. There is always a cause. However apparently aimless the train of thought, there was something that initiated it and other stimuli that kept it going. Let us also note that on the side of the ledger headed "Stimulus" everything entered is of a character to appeal to the known sense organs of the individual—that is, to the eye, ear, and so on. There is no place in such a stimulus-response psychology for hunches, intuition, telepathy, and the like, if they are to be thought of as responses occurring in the absence of a stimulus. Thus considered, they are so much superstition, a hold-over from the popular psychology of the savage who used them as explanatory principles because he did not know any better.

If we next turn to a consideration of the items appearing in our analysis of the conduct of Mr. X as given above, we note that he has a varied repertoire. Anyone can see that jumping at the sound of an automobile back-fire is certainly in a different class from being interested in a pretty woman. At the same time we note similarities among some of the items in the list. Being angry when the train is late is clearly

not so very different from being impatient when some one blocks his pathway, and jumping at a loud sound shows points of likeness to jerking away from a burning match.

As soon as we begin to note such similarities and differences and to attempt classification, we begin to be scientists. Scientific psychology is nothing but the attempt to put all of the stimulus-response adjustments that human beings make into appropriate pigeon-holes. It is sorting out such responses as jumping, jerking, blinking, shivering, gagging, blushing, and putting them into one category, to be distinguished, for example, from such responses as thinking, planning, scheming, reasoning. It is evident that our problem is to find some system of grouping that will express the differences and likenesses that we have just been discovering.

#### BEHAVIOR CLASSIFIED ON THE BASIS OF COMPLEXITY

One of the most obvious classifications of behavior is on the basis of complexity. It will be seen that such acts as jumping at a loud sound, waking up when the alarm clock rings, drawing back from a painful stimulus, are less complex, both as to the stimulus and as to the response, than is the act of calling up the coal dealer as the result of a long train of thought. It would be possible to indicate such differences of complexity on a scale of 0 to 100, as shown in Fig. 1. The extremes of simplicity and of complexity would, of course, be hypothetical things;

indeed, the whole scale is but an abstraction to help us in our thinking.

*Simple* 0 10 20 30 40 50 60 70 80 90 100 *Complex*

FIG. 1

Keeping in mind the fact that no two people would agree as to the exact place on the scale where each act should be placed, let us note a few examples of the way it works out. We might, on a guess, place the act of jumping when the automobile back-fires, at about 10 on the scale, since it seems rather simple both as to stimulus and response. Waking up at the sound of the alarm clock would fall somewhere in the same neighborhood. Replying to "good morning," the secretary's salutation, would be considered more complex. It might be placed at about 20 on the scale. Smiling and being interested in the picture of the child might fall at 30; these are rather hard to place, for while the external response is fairly simple, we suspect that the mental state accompanying it is somewhat complex. Being interested when the pretty woman enters the office is a similar case. When we come to the long train of thought that leads up to the ordering of the coal, we would probably agree that it should be placed fairly far to the right of the scale, say at 75 or 80. That leaves plenty of room at the complex end for such performances as seeing into a very hard problem or thinking out an invention.

Such a scale of complexity serves a useful purpose if it makes us realize that the words simple and

complex are only relative terms. Some psychologists have spoken of simple acts and complex performances as if the words meant something definite. Clearly they do not unless we are told *how* simple or *how* complex. The only practical way to do this is by some such scale as we have presented.

#### NATIVE VERSUS ACQUIRED BEHAVIOR

In every description of behavior mechanisms the words *native* and *acquired* are almost sure to appear. For practical purposes it is satisfactory to assume that all ways of performance present in the child at birth are native or inborn, though some learning has taken place previous to birth. The child, then, comes into the world with a good stock of ready-to-work mechanisms. These are at once subject to training and to various degrees of modification. On the basis of these early and rather simple ways of acting are built up the developed personality and the elaborate performances that characterize adult life. It is customary to speak of these developed ways of reacting as acquired.

At first sight these words native and acquired seem mutually exclusive; one is likely to jump to the conclusion that any act can be classed as either native or acquired. Upon consideration, however, one sees that most adult performances are neither purely native nor purely learned, but are a mixture. The elements of speech, the babblings of the young infant,



are native; speech as it appears in the adult is a derived product, built upon the foundation of those native reactions. It has, perhaps, more of the acquired element than has fighting conduct, for example. As in the case of complexity *versus* simplicity, then, we find that one can best express the real situation by making a scale, one end to represent completely native performance, and the degrees on the scale indicating increasing amount of learning. Such a scale is shown in Fig. 2.

---

*Native* 0 10 20 30 40 50 60 70 80 90 100 *Acquired*

FIG. 2

On such a scale, jumping at a loud sound would fall near the zero end; we do not have to learn to jump, and experience usually does not modify this tendency very much. Being angry when thwarted at the Subway is probably more native than acquired; we might place it at 20 to 30 on the scale. Laughing at a story told by some one else might be placed somewhere between 30 and 60. An act involving a great amount of thought would be placed toward the right end of the scale. It should be noted that since all behavior goes back to the native basis the 100-per-cent acquired act is impossible.

The psychologist in classifying human acts has made use of a great number of descriptive terms. For our present purpose we are going to consider but six pairs, the six most commonly used. We have already noted two of these pairs and to these we add the following:

Fixed	<i>versus</i>	Modifiable
Prompt	"	Delayed
Involuntary	"	Voluntary
Unconscious	"	Conscious.

These terms should need little explanation. By *fixed* we mean not much subject to change by experience. The pupillary reflex spoken of in an earlier paragraph is a good example; the response of contraction to the stimulus of a beam of light is very hard to prevent or change. Many other types of human conduct are relatively easy to change, and to them we apply the term *modifiable*. By the word *prompt* we mean that the external manifestations of the reaction occur at a relatively short interval after the stimulus, as in the case of the person who jumps at a loud sound. In other cases the external manifestation may be delayed for several seconds or even hours. The term *involuntary* should be clear to all; as used here it means without intent or will, as when we say that we involuntarily jerked our hand back from a hot object. When the performance results after deliberation and with intention, we use the word *voluntary*. *Conscious* and *unconscious* are used in the ordinary, common-sense meaning.

In the case of these four pairs of terms, as in the case of the two previously given, we may profitably make use of a scale to indicate the fact that many degrees exist. Bringing together the six scales thus derived, we may construct a chart such as the one shown in Fig. 3. On such a chart it would be possible to

draw a line which would be roughly descriptive of any act. Suppose, to take a concrete instance, that we attempt thus to represent the pupillary reflex. On the first scale it would be rated as somewhat simple, say at 8. The same figure might well represent the nativeness of the response, its fixity, promptness, and

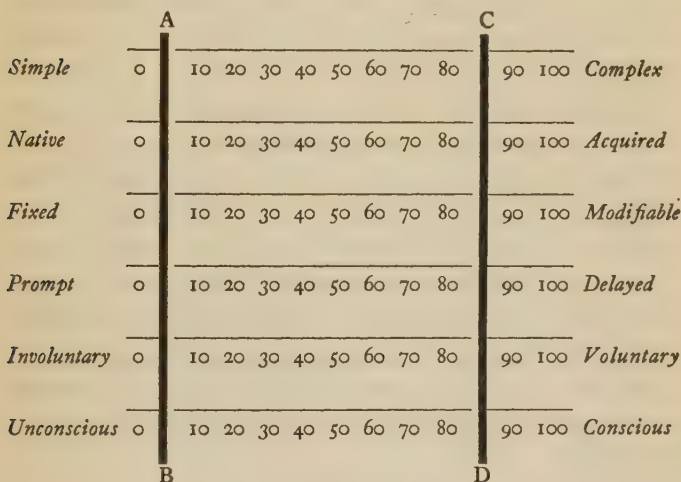


FIG. 3

Line A-B represents contraction of pupil of eye to light.

Line C-D represents solution of hard problem in mathematics.

so on. If we connect all of these 8's we would have the line A-B, which may be taken as descriptive of this particular act. In a similar manner a line may be drawn to represent any other human performance, from blinking the eyes to understanding the Einstein theory.

What has all this to do with writers and with psy-

chology? Well, if one is going to talk about human conduct one must have a vocabulary. One cannot always deal with individual acts, but must frequently speak of classes of conduct, such as habit, emotion, instinct, and so on. To make sure that one will be understood, some standard, precise meaning must be given to these terms. Definition means descriptive adjectives—and the pairs of descriptive adjectives just given are the ones to which we have to turn. Our effort has been to give these adjectives greater force and precision, through the use of the scale.

The utility of the scale is apparent as soon as we begin to pick out particular types of conduct for description. We have already noted that such acts as jumping, blinking, withdrawing from a painful stimulus, seem to have much in common and to differ markedly from performances such as composing a poem or writing a letter. We group these related acts together and speak of reflexes and thinking, respectively.

#### REFLEX BEHAVIOR

The term reflex occurs so frequently in modern psychology, and is so rapidly making its way into the popular vocabulary, that the writer will profit by an attempt at making clear the limits embraced by this classification. In general we should reserve the word for responses which are characterized by their relative simplicity, nativeness, fixity, promptness, involuntariness, and unconsciousness. A number of such responses have been noted in the preceding

pages, including the contraction of the pupil of the eye when stimulated by light, blinking at a bright light, jumping at a loud sound, shrinking from a painful stimulus. In addition we may list the following:

SOME COMMON HUMAN REFLEXES <sup>1</sup>

Shivering  
Shuddering  
Digestive reflexes  
Winking  
Accommodation reflexes of eye  
Eye-fixation and convergence  
Hiccoughing  
Sneezing  
Patellar reflex (knee-jerk)  
Dizziness reflexes  
Yawning  
Vomiting  
Salivation  
Tickle reflexes  
Vasomotor reflexes (blushing, paling)  
Squirming  
Coughing  
Swallowing and gulping  
Visceral discharge  
Gasping  
Wincing  
Equilibration

<sup>1</sup> This list is a condensation of a complete list given by Warren, Howard C., *Human Psychology*, New York, Houghton Mifflin Company, 1919. P. 101.

A consideration of this incomplete list will reveal the fact that reflexes are not all of the same pattern. Coughing, for example, is certainly not as simple or involuntary or unconscious as is the contraction of the pupil of the eye. Evidently the term reflex may be used only in a rough way to indicate a group of reaction mechanisms falling at the left end of our scales of simplicity, nativeness, and so on. We therefore cannot draw a single line to indicate ex-

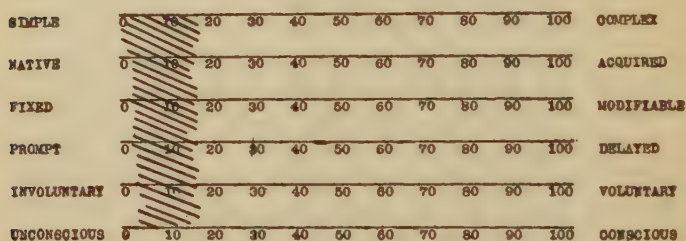


FIG. 4

Illustrating the meaning of the term *reflex*. The shaded area represents about the limits of the type of conduct covered by the term.

actly where reflexes fall on our scales, but may merely make a hazy boundary to show about the limits. This has been done in Fig. 4.

So important is the reflex in behavior that some psychologists have tried to build their whole system of psychology around it. Allport,<sup>1</sup> for example, in his *Social Psychology* gives a list of reflexes which "were selected as the origins for which we were searching. These reflexes were classified as (1) the

<sup>1</sup> Allport, Floyd H., *Social Psychology*, Boston, Houghton Mifflin Company, 1924. P. 79.



avoiding reactions, such as infantile withdrawing, rejecting, and struggling, and (2) the approaching responses to the stimulations of hunger and of the sensitive and erogenous zones. In the competition with other reflexes for the final common path, these reflexes are prepotent." Allport thinks that, using these reflexes as a starting point, the young child quickly experiences many modifications and elaborations of behavior. In the adult the especially strong and important ways of reacting are classed as prepotent habits.

To many psychologists this theory fails to do justice to much of human behavior which, while relatively more complicated than the reflexes, is relatively native and fixed. Such ways of acting we shall discuss in the following paragraphs.

#### INSTINCTIVE BEHAVIOR

Referring again to the samples of the daily activities of our hypothetical Mr. X, we note some reactions which seem more complicated than such performances as blinking at a bright light or jumping at a loud sound. There is, for example, his seeking of food when hungry. This act is obviously less fixed in its sequence, less innate, than the typical reflexes, yet it seems to have a bit of their impulsiveness and urgency.

From considerations of this kind, it seems desirable to mark off a second group of behavior mechanisms on our scale (see Fig. 5). The boundaries of this

group are not clearly defined, for it is not possible to distinguish between simple instinctive acts and reflexes on one hand, and between complicated instinctive behavior and habitual or rational behavior on the other. For convenience we have assumed 10 or 12 on the scale to represent the lower limits for instinctive performances, and in the same arbitrary fashion 50 or 55 may be designated as the upper bounds.

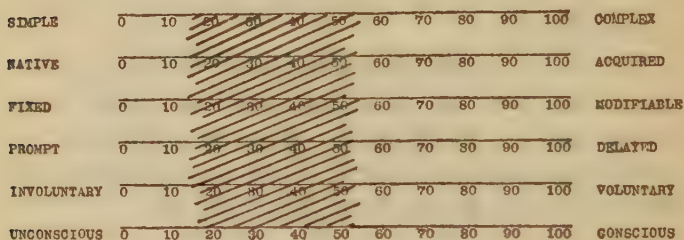


FIG. 5

Illustrating the meaning of the term *instinct*. The shaded area represents about the limits of the type of conduct covered by the term.

This second classification includes what we shall call instinctive behavior. It covers what psychologists variously call wants, urges, desires, prepotent habits, and instincts. A few of the more important ways of acting which fall in this class are:

#### SOME INSTINCTIVE REACTIONS

Food-getting  
Fighting  
Flight from danger

Mastering behavior  
Submissive behavior  
Sex behavior  
Parental behavior  
Rivalry  
Curiosity

Modern psychologists are pretty well agreed that this group of reaction patterns is of the utmost importance in human behavior. Professor McDougall in a famous passage has declared that directly or indirectly "the instincts are the prime movers of all human activity."<sup>1</sup> James, speaking of but one of these instinctive reactions, that of rivalry, said that nine-tenths of the work of the world is motivated by it.<sup>2</sup> The Freudian school of psychology has made us familiar with the great part played in human life by sex. If we had to select any one group of reactions as best answering our question, What makes men act? we should have good authority for designating the instinctive.

#### INSTINCTIVE APPEALS AND READER INTEREST

The truth of the foregoing is widely recognized by writers and publishers. One of the clearest expressions of this recognition appears in the novel, *Heirs Apparent*, by Philip Gibbs. In the story, Victor Buckland, who has built his publication up to a

<sup>1</sup> McDougall, William. *An Introduction to Social Psychology*, p. 45. Luce & Company. Boston, 1917. P. 44.

<sup>2</sup> James, William. *The Principles of Psychology*, p. 409. Henry Holt & Company. New York, 1890.

circulation of two millions, tells a young reporter the secret of his success:

"There's no money in it unless you write the right kind of stuff. . . ."

"I understand Life," said Victor Buckland, gulping down some cold coffee. "I've mastered the secrets of the Human Mind. I've analysed the Average Man and the Average Woman. I know 'em inside and out, and their fundamental interest for which I cater. They demand certain things unconsciously—I supply them. That's why *The Week* has a circulation of two millions."

He was silent a moment, as though reflecting on the stupendous achievement of that two millions. . . .

"The principles are elementary. When I look back at my own career I'm astonished at the simplicity of the game, apart from any gift of organization and that touch of genius which exalts the Commonplace.

"What are the fundamental passions, interests, and pleasures of the human race? . . . The same in every country, in every class, and in every heart. . . . Love, Hate, Religion, the Sporting Instinct, and Scandal—curiosity in the affairs of other people like themselves.

"Take Love. . . ."

He seemed to take Love and ponder over it, as he might judge a horse in the paddock. . . .

"Love," he said. "People want to know about it, peer into its secret motives and instincts, study its abnormalities and its melodrama, its tremendous Urge. They want to know how the actress loves, how the Bishop loves, the film star, the murderer, the typist girl, the milliner. Well, I tell them! I get the

divorce news in full—all the best cases. The Divorce Court provides the Hazard of Love, the great unending story of romance, tragedy, adventure, passionate sin, pity, revolt against the prohibitions of social custom and the restraints of civilized life. The divorce court news is the Shakespearean drama of everyday life—and some fools want to suppress it. When I can't get a good divorce case, I send my young men out to discover private scandals, to interview leading psychologists on the burning question, to write articles on every aspect of amorous interest. 'Do girls like men with grey eyes—black eyes, brown eyes?' 'Do men like red-haired women, black-haired women, women who paint, intellectual women, stupid women, bad-tempered women?' An endless field of enquiry. Love, my boy, is the key-note of my success. See?" . . .<sup>1</sup>

We may think that Victor Buckland's list of instincts is rather narrow and his concept of their use rather cynical, but we must agree that he expresses a fundamental theory of literary success. The instinctive appeal is the shortest route to 'the reader's interest.

#### EMOTIONAL BEHAVIOR

Closely associated with instinct is emotion. By emotion we ordinarily mean the conscious state which goes with certain internal reactions, which in turn frequently accompany instinctive responses.

<sup>1</sup> Gibbs, Philip, *Heirs Apparent*, p. 220. New York, George H. Doran Company, 1924. Quotation by permission of publisher.

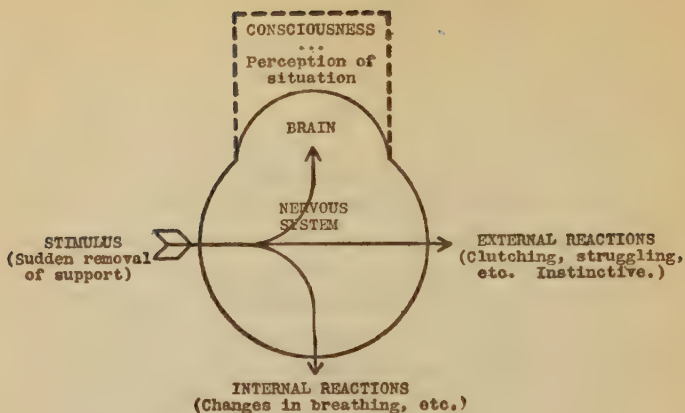


FIG. 6

Stage I in the development of the emotion.

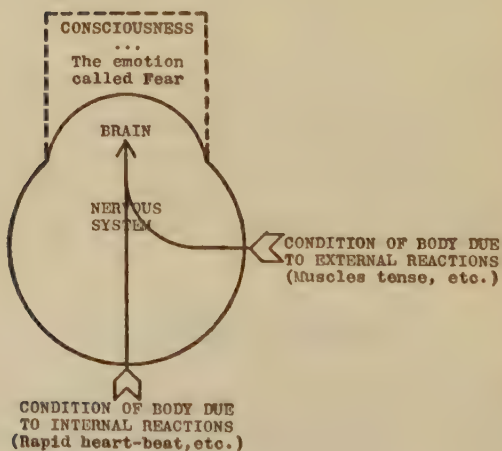


FIG. 7

Stage II in the development of the emotion.



This relationship may be made somewhat clearer by a reference to the diagram Fig. 6. A stimulus, in this case the sudden withdrawal of support, is applied to an individual. To this the instinctive response is clutching at support, attempts at adjustment, and the like. At the same time, as most of us well know, there occur internal adjustments, having to do with breathing and the heart-beat and usually localized as in "the pit of the stomach." In the case of more complicated situations than the one under discussion these activities of the internal organs may be widespread, including circulation changes, digestive reactions, and glandular excitement. While all this is going on, messages are also being carried to centers in the brain, with accompanying consciousness of the external situation. Thus far, as shown in the first step in Fig. 6, we merely have the stage set for the emotion, which is yet to appear.

It is evident that the sensations due to the instinctive and reflex reactions just described will soon be telegraphed to the brain by means of the sensory nerves which run from all parts of the body. Thus presently comes the awareness that the heart is beating faster, that the lungs are acting in an unusual manner, that a widespread series of reactions is occurring. Because of the multitude of poorly localized sensations, the resultant state of consciousness is the queer, stirred-up awareness we call an emotion.

The nature of emotions and the difference between emotional and instinctive reactions is brought out by Fig. 8. It will be seen that in general emotions

may be regarded as reactions which are less modified by experience, less prompt, less voluntary, and more highly conscious than are instinctive acts. The matter of promptness is somewhat troublesome. As has been noted above, the emotional reaction appears after the instinctive acts accompanying it are well under way, and we might conclude that the emotion

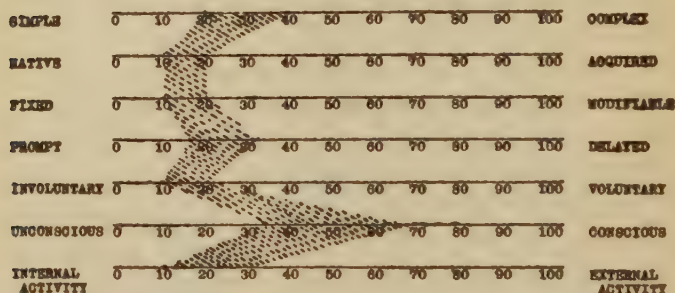


FIG. 8

Illustrating the meaning of the term *emotion*. The shaded area represents in a very rough way the limits of the type of conduct covered by the term. The scale is in terms of relative complexity, acquiredness, and so forth.

should be classified as a delayed reaction. The delay, however, is brief, to be measured in fractions of a second, while when we speak of delayed instinctive acts we have in mind much longer intervals. It therefore seems best to call the emotion fairly prompt, if we keep this explanation in mind.

In Fig. 8 there is added a new pair of terms, internal and external activity. This is to stress the fact that much of the response in the emotional reaction is to be located in the heart, lungs, and other

organic centers, as opposed to instinctive activity which is characteristically pictured as involving the external, skeletal muscular system.

Another aspect of the relation between emotion and instinct is well brought out by Woodworth.<sup>1</sup> He points out the close connection between instinct and emotion, which is fully as important as the distinction between them. He says:

Several of the primary emotions are attached to specific instincts: thus, the emotion of fear goes with the instinct to escape from danger, the emotion of anger goes with the fighting instinct, the emotion of lust with the mating instinct, tender emotion with the maternal instinct, curiosity with the exploring instinct. Where we find emotion we find also a tendency to action that leads to some end-result.

#### OTHER REACTION GROUPS

The human machine is tremendously complicated and human reactions are extremely varied. This makes possible and necessary many groupings of man's ways of reacting. It is not our purpose to attempt here a further elaboration of this subject, but in addition to the reflexes, instincts, and emotions already noted we should mention habitual behavior and reasoning as important in the complete picture.

Fig. 9 indicates about the limits covered by habit.

<sup>1</sup> Woodworth, R. S. *Psychology, A Study of Mental Life..* New York, Henry Holt & Company, 1921. Much of the discussion of emotion as given in this chapter is based upon Woodworth's analysis.

It is sometimes impossible to distinguish it from instinctive behavior, the principal theoretical difference being the greater acquired element in habit, and this element is hard to measure. Habits are also thought of as less fixed and less impulsive than instinctive reactions, but the tenacity of well-established habits is a matter of common observation.

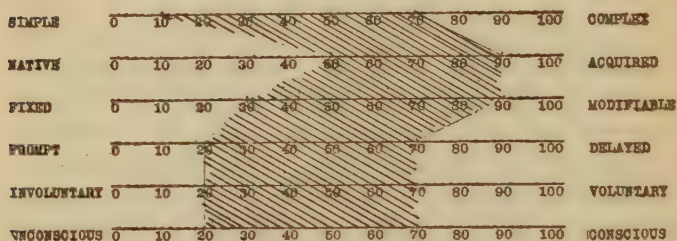


FIG. 9

Illustrating the meaning of the term *habit*. The shaded area represents in a very general way the limits of the type of conduct covered by the term. The scale is in terms of relative complexity, acquiredness, and so forth.

In Fig. 10 the meaning of reasoning is illustrated. This type of behavior appears when the reflex, instinctive, or habitual machinery of the individual is not adequate to meet the situation. We speak of such situations as problems or puzzles. In lower animals such puzzles are solved by trial-and-error movements, with chance success, as when a dog learns to open a door by turning a knob with his nose. In man the mental trial-and-error process of reasoning is sometimes substituted for the physical manipulations. This form of behavior is derived, in the sense

that it depends upon instinctive wants, needs, and desires for its motivation.

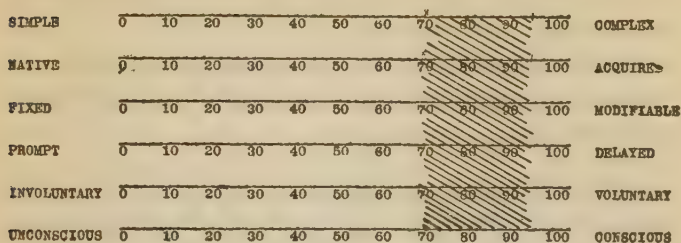


FIG. 10

Illustrating the meaning of the term *thinking*. The shaded area roughly represents the limits of the type of conduct covered by the term. The scale is in terms of relative complexity, acquiredness, and so forth.

#### A RULE OF BEHAVIOR

“Good enough!” says the reader who has waded through the preceding pages. “I now know what reflexes, instincts, and emotions are. But how may that knowledge be useful? How can I put it to work?”

The answer is that the attempt at a scientific conception of human behavior is of chief value as it substitutes a broad theory of motivation for partial and incomplete theories. To summarize the argument thus far advanced, we now see an individual as the product of a long process of evolution, which has left him equipped with mechanisms of adjustment to some of the more common situations which confront animal life on this earth. In the life cycle of any individual these basic mechanisms become modified



by his experiences, so that he comes to show characteristic, personal adjustments. His total behavior is the resultant of these two factors, native mechanisms and modifying experience.

We are incurably eager for rules and formulæ and perhaps it may do no harm to cast the foregoing into a generalization, as follows:

*In any situation an individual will react in the way which in the history of the race was appropriate to that general situation. Whatever deviation from the racial pattern appears must be traced to modifications of his original nature by the experiences to which he has been subjected.*

At once we hear a loud objection to this statement. What will our hypothetical individual do when confronted with the situation, an-ace-trumped-by-a-stupid-partner? What response "in the history of the race" was "appropriate" to that situation? Since our ancestors did not play cards, how can we possibly have any ready-made equipment with which to meet the card situation?

The reply is, of course, that few of our inherited ways of reaction are specific, and none of them is specific to man-made things such as cards. But to the general situation, being-blocked-in-competition-with-others, there *is* an appropriate response which was just as appropriate a hundred thousand years ago as now. That response is increased effort, and, if the blocking be too prolonged and the instinctive act too imperative, finally fighting and anger. In



the history of the race, for an individual thus to respond ordinarily resulted in a better chance of survival. He was more likely to get the food or the wife or the shelter or whatever the object of contest. He was more likely to multiply and replenish the earth with his kind. It seems logical to expect his descendants of today to exhibit this aggressive reaction, subject always to the restraints and modifications produced by civilizing environment.

This concept may be made clearer by a few concrete examples, arranged in the form of a situation-response ledger:

<i>Situations</i>	<i>Responses Which in the History of the Race Usually Had Survival Value</i>
A loud sound	Starting and withdrawing
Sudden withdrawal of support	Grasping and struggling
Being attacked by a weaker enemy	Fighting and anger
Being attacked by a stronger enemy	Flight and fear
Some unfamiliar object in a familiar setting	Cautious investigation and curiosity
A little child in danger	Protection of the child
The group in flight	Running away with the group
Being alone	Seeking the group
A member of the opposite sex	Approach, courtship, and sex behavior

Being blocked, hindered	Seeking to overcome the blocking
Being hungry	Seeking food
Being tired	Rest and sleep

These few cases serve to illustrate the general principle. Confronted with the problem of what to make a character do in a given situation, the writer will find this principle a useful one. Make the character do the racially appropriate thing, and if he departs from that, show that the deviation is the result of the molding force of his experience.

The multitudinous ways in which experience may thus modify original nature will be the subject of the following chapters.

## CHAPTER FOUR

### PSYCHOLOGICAL TWISTS IN CHARACTER DEVELOPMENT

TAKE a young baby and place it on its back on a blanket. Hold it so that it cannot move. Then await results. They will soon appear. The small fists will begin flailing in all directions. The small feet will kick out madly. The small face will get red and become wildly contorted. Probably there will be loud squalls, much twisting and squirming. The child comes into the world ready to struggle.

Take the same baby ten years later. He is a big boy now. A bigger boy seizes him, attempts to hold him tightly. Again the struggle. Again the signs of anger. It is better directed, more cunning in its expenditure of energy, but at bottom it is only the struggle mechanism elaborated.

Another ten years and our youth is twenty. Again we try to block him, this time on the football field. Again we elicit the same fighting response. We try him again when he is thirty, this time in a business situation. We find him still responsive to blocking. Thus the story goes until he is an old man with one foot in the grave, but with energy left to fight back at anyone who infringes his rights and prerogatives.

This struggle reaction is a fundamental way of

living things. Jennings<sup>1</sup> showed this very neatly with an amœba. The amœba is a microscopic speck of protoplasm without sense organs or nervous mechanism or anything much to distinguish it from a bit of dessert gelatin, but nevertheless very much alive and equipped with ways of adjustment which make it kin to all living things. Jennings watched one of these tiny creatures swimming in its private ocean—a drop of water. Presently it banged its front bumper against an obstruction. Promptly it went into reverse, backed away, set a new course at an angle to the first, then full speed ahead once more. Once more a collision. Once more the reverse, the change of direction, the forward push, until it found the way around the obstacle.

Or take Thorndike and his famous cat.<sup>2</sup> Thorndike built a small cage with a door that could be opened by turning a simple knob. Outside the cage at a safe distance he hung a fine ripe bit of fish. Inside the cage he placed an active cat that had not been fed for some time. Naturally the cat was hungry. It caught the scent of the fish. Then began a series of interesting reactions. The cat pushed against the bars of its cage. It tried to push its head between the bars. It stuck its paw out and tried to reach the fish. It crawled up the bars and clawed at the roof of the cage. It sat down and did nothing but switch its tail for a while. It mewed.

<sup>1</sup> Jennings, H. S., *Behavior of the Lower Organisms*. New York, Columbia University Press, 1923.

<sup>2</sup> Thorndike, Edward L., *Animal Intelligence*, p. 35. New York, The Macmillan Company, 1911.

It clawed at the bars some more. Finally, by chance, in its random, hit-or-miss efforts it struck the knob that opened the cage. It escaped and got its bit of fish.

When placed in the cage a second time, the cat directed more of its efforts against the knob and the door. It escaped more quickly. After many trials it learned to omit the useless, random movements and to open the cage immediately.

Thorndike found that animals could be taught to adopt many curious habits of reaction. He found that if the door were opened when the cat was doing something that had nothing to do with the mechanism of the knob, the cat would soon learn to make this reaction when it wished to get out. Thus the cat might be trained to open the cage by mewling or by standing on its hind feet or by switching its tail. In one experiment a chicken was trained to peck at its wing whenever it wished to escape. Theoretically, any reaction, no matter how foolish or futile, might thus, by training, be associated with the cage situation. We shall find this almost equally true of humans.

#### WANT, OBSTACLE, STRUGGLE, ADJUSTMENT

Fiction is mostly a record of cats escaping from cages. In the next story you read, look for the bars of the cage and note the hero prowling around inside them. You will find that the writer starts with some want or desire or urge. The satisfaction of

that want is temporarily impossible. The hero hunts valiantly for a solution. The climax comes when he finds the knob, the door swings open, and he gets his bit of fish—usually the Girl.

We come, then, to a basic conception for the writer, especially for the writer of fiction. Every story you will ever write, every situation involving human reaction that you will ever picture, has four fundamental elements. First, there is the Urge, the Want, the Desire. Second, there is the Obstacle. Third, there is the Struggle. Fourth, there is the Adjustment. Expressed in a simpler way, we have the formula:

The felt Want—The Obstacle—  
The Struggle—The Adjustment

In an earlier chapter we considered a list of the instincts which psychologists have discovered in men and women. The list affords our point of departure in the study of character and the development of plot. We may take any of these instincts and upon it build our story. Suppose, for example, we take the food-getting instinct. We invent bars which prevent the satisfaction of hunger. We may place our story in the frozen north and the barrier is a physical one. Then comes the struggle, the seeking for expedients. Perhaps our hero boils his shoes, as Charley Chaplin did in one of his films. Perhaps he sets snares for wild animals. Perhaps his struggle has recourse to day dreams and night dreams of tempting food. The solution comes when help ar-



rives with fresh stores, or when he discovers a cache of food, or when he shoots an elk and cooks some of it over a crackling fire and greedily sets his teeth into a bit of the delicious meat.

To be most interesting and satisfying to the reader the Struggle must be active and persistent. If the hero gets out of his cage too easily there is likely to be a general complaint that "there is no point to the story." Readers like to see the hero climb to the top of the bars, only to fall back and be forced to try again. They want him to have a hard time of it. But they want him to win in the end.

Occasionally, of course, we find people who claim that they do not like the happy ending. They say that it is trite or that it is not true to life. These are sound statements, but they are not the real reasons for the dislike of this type of ending. A little study will show that it is the tame cats, full fed and lazy, who sneer at the efforts of the captive. Likewise, old and cynical cats who have never been able to get out of the cage themselves, may declare that pictures of escape are cheap sentimentalism. Normal, hopeful, unsatisfied cats—and they are in the majority—refuse to accept either of these views. They want the hero to conquer and to live happily ever after.

Writers also are cats in cages. Their writings are the graphic record of their twistings and strugglings in their attempts at finding new ways of expressing what they see in human nature. Their constant ef-

fort is to weave into their stories novel twists to the eternal fact of wants adjusting to barriers.

One means of achieving this originality which writers seek is through a comprehensive picture of what has been done in the past. To get such a picture we shall find it profitable to turn now to a closer consideration of what may be called the *mechanisms of adjustment*. These may best be studied as they group themselves around specific instinctive reactions.

#### THE DESIRE FOR MASTERY

In the behavior of every normal human being may be discovered numerous examples of the functioning of that instinctive way of reacting which we shall call the *desire for mastery*. This way of adjustment may be traced back, if we follow Allport's simple reflex theory, to the struggle reflexes found in young children.<sup>1</sup> If we hold to the instinct theory of behavior we may assume an instinct of *pugnacity*, as does Professor McDougall, or an instinct to *master*, as do other authorities. This way of reacting has also been described as "the will to power," the "ego urge," and "self-maximation." It does not make much difference what term we employ, as long as we recognize that in infancy this stimulus-response mechanism is not well organized, certainly not much more than a blind thrashing about and resistance to restraint, and that this innate core serves as the basis

<sup>1</sup> See page 50.

upon which an elaborate superstructure of acquired reactions is erected.

From the earliest moments of life this instinctive urge to mastery is constantly meeting obstructions to its full expression. The wishes of others, the intractableness of materials, social, economic, and environmental barriers, serve to hinder, to deflect, and sometimes to prevent its direct functioning. When a strong tendency is thus blocked, however, it does not stop dead, like a bullet stopped by a heavy timber, but rather it tends to find some substitute outlet, like a stream which, dammed in one channel, finds other avenues of escape. As with the stream, these substitute outlets may be deeply channeled through repeated use and come to be employed in preference to the older and more normal outlets. In the chart, Fig. 11, we have tried to visualize this concept and to present some of the commoner adjustments.

Let us consider a concrete example. A boy is born—a boy with the average amount of this instinct for striving against barriers. This mechanism guides much of his conduct, leading him to undertake a great variety of exploits. As he grows older he observes men doing many things, but above all he is fascinated by those who speak in public and move audiences to their will. He aspires to win fame that way also. Then he meets an obstacle. He finds that he has a difficulty of speech, such that his efforts are laughable to others. He seeks to overcome this difficulty. He goes out by the seashore, places peb-

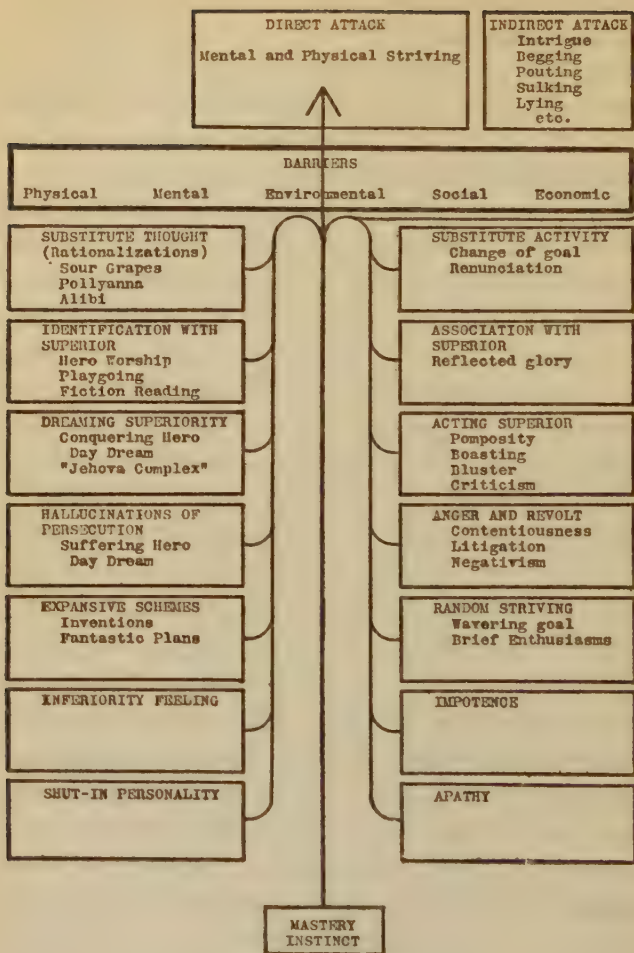


FIG. 11

bles in his mouth, and for long hours practices his art in private until he has conquered his speech defect.

That man was Demosthenes. We may speak of his method of meeting barriers as the *direct attack*. To the situation, a block or barrier, the normal human adjustment is an increasing expenditure of energy. Take the case of a man pushing a lawn-mower. It sticks on a bit of tough grass. The man automatically puts more force into his push, overcoming the obstruction. Or suppose we try to open a drawer. It sticks. We grit our teeth, set our muscles, pull harder.

The great figures of fiction and of history have been men who made this vigorous response to the blocked path. Consider the Cid. Review the mighty deeds of Hercules or Roland or Beowulf. Turn to the lives of such men as Richard the Lion-hearted, or Robin Hood, or, to come down to our own times, of Roosevelt or Mussolini.

Your readers will like these strong, masterful men. There is a fascination about the individual who by nature and by training is able to focus all the energies of his body and mind in breaking the bars, in sweeping relentlessly to his goal. Timid souls, less virile, love to regale themselves in their luxurious steam-heated apartments with the tales of the prowess of these clean young giants who only know that barriers are things to be overcome, mountains things to climb, oceans things to fly across.

## INCREASED CEREBRATION

The overcoming of obstacles by sheer brute force will always be a favorite form in fiction, but since Homer sang the wiles of Nestor literature as well as popular psychology has recognized that victories may be won by cunning and stratagem. In other words, to the blocking situation, the desirable reaction may be not only increased physical effort, but also increased cerebration.

A scientist placed a young chimpanzee in a cage.<sup>1</sup> Outside the cage, about ten feet away, was food. Inside the cage were two bamboo sticks about five feet long. The ape was hungry. He saw the food. He stuck his arm through the bars of the cage. That did no good. Presently he spied one of the sticks. He took it, holding it by the end, stuck it through the bars, and tried to reach the food with it. It was too short. Then he discarded it and tried the other stick. It, too, was inadequate. Here was a problem. What to do. He sat down, very still. It would almost be fair to say that he was thinking. Then suddenly he appeared to have what in a human we would call an idea. He seized the two sticks, holding the end of one against the end of the other. Now he had two sticks, end to end, his hand holding them thus. He tried this longer stick. Unfortunately, it would not work. As far as getting the food was concerned it increased his reach not a whit. He

<sup>1</sup> For a similar case see Köhler, Wolfgang, *The Mentality of Apes* (tr. by Winter), p. 130. New York, Harcourt, Brace & Co., 1925.



was, however, on the right track. He was getting warm. He sat down and looked at the sticks. Then quick as a flash, the experimenter tells us, he seized the two sticks, pushed the end of one into the hollow end of the other and had a pole equal to the combined length of the two. With the pole he raked the food to him.

Here we see, in an elementary form, the rôle of increased mental effort in helping the individual escape from the barriers of his cage. It is one of man's claims to superiority that he can do more along this line than any other animal. He has a wonderful cerebral cortex, made up of elaborate neural pathways and brain centers and delicately adjusted nerve cells, which makes possible this transference of the trial-and-error procedure from the level of brute force to the level of the finer activity involved in thinking.

When our hero in the story, then, is blocked in his pursuit of whatever he is pursuing, it is not absolutely necessary nowadays that he buckle on his knightly shield and armor and spur headlong into combat with the dragon. Instead, he may use his brain. He may put his wits to work to find the way out or over or around. We are apt to follow him with pleasure to the extent that he shows himself tenacious of purpose, fertile of ideas, indefatigable in their prosecution. Many of us keep right on reading Clarence Budington Kelland's stories of the bright boy who outwits the village villain and weds the banker's daughter.

## SUBSTITUTE ATTACK

A second mechanism, which we have called the *substitute attack*, marks the reaction of many individuals to the barriers of environment. The character of Uriah Heep affords a good example. Uriah, it will be remembered, possessed great ambition—a great desire for mastery—but by reason of his native bent and his training he elected to gain his ends by indirection instead of by bold frontal attack.

“I suppose you are quite a great lawyer?” I said after looking at him for some time.

“Me, Master Copperfield?” said Uriah. “Oh, no! I’m a very umble person.

“I’m well aware that I am the umblest person going,” said Uriah Heep modestly, “let the other be where he may. My mother is likewise a very umble person. We live in an umble abode, Master Copperfield, but we have much to be thankful for. My father’s former calling was umble; he was a sexton.”

It is probable that in his youth Uriah received an extra sixpence or a pat on the head for being “umble.” He found that this was a way of getting what he wanted in the world. Like the cat which learned to mew when it wanted to get out of the cage, Uriah came to practice humility by habit. It became a fixed part of his character.

In the same story we note Dora, the child wife, resorting to pouting and tears as a way out of her difficulties. Other individuals adopt sulking, malin-gering, threatening, lying, and kindred modes of re-

acting. These devices are usually discovered and tried out in childhood. If they work, they are repeated until they become habitual. Frequently they persist in adult life and may be the source of serious maladjustments.

In our chart, Fig. 11, these substitute attacks have been pictured as landing the individual beyond the barriers. They are not always successful, of course, but for that matter neither is the direct attack. It should be noted that they really represent mental and physical striving, but of a socially unacceptable form. In fiction-writing they may be reserved for the aggressive but villainous characters, whose nefarious doings so frequently block the hero. The hero himself may rarely employ anything but the most direct methods.

#### INSIDE THE BARS

The mechanisms thus far discussed have the merit that they may get the individual past the bars. We now turn to a second group of adjustments which, while possessing sources of satisfaction, do not thus result in escape from the cage.

First, there is the *substitute activity*. It is said that in youth Cicero aspired to some profession other than that of oratory, but, physical limitations preventing the realization of his ambition, he turned to a substitute which proved a fortunate move. History, fiction, and daily life are full of similar examples. A boy wants to be an athlete, but fails in that

and finds solace in editing the college paper. A man would like to be a leader of men, but a physical infirmity forbids and he turns to art, where his tremendous energy carries him to the top. Dozens of similar cases are to be found in every inspirational essay.

In literature the *substitute activity* is frequently undertaken as a dramatic gesture of renunciation. The frustrated individual becomes a monk or a hermit or a social worker. "He Who Gets Slapped" affords a good illustration. Here the central figure, He, blocked and defeated in higher levels of society, turns to the world of clowns, where he is more successful.

#### SUBSTITUTE IDEALS AND BELIEFS

Sometimes when we are frustrated in our desires our trial-and-error behavior leads us to adopt substitute ideas and beliefs. The fox in the fable did that. You will remember that he was of a distinguished old fox family, and very proud of it. He had, however, the misfortune to be three inches short of what was considered true manly stature. He was quite sensitive on this point; in fact, he had what the psychoanalysts call an inferiority complex and he probably compensated for it by his rather pompous manner. One day as he was walking along he saw some grapes hanging from a branch well above his head. He tried to get those grapes, but found, to his chagrin, that he was too short. Whereupon he

fell back upon a very convenient mental mechanism. He declared that the grapes were probably sour and that he did not want them. This is sometimes called the denial of the desirability of the unattainable.

Examples of this device are to be found in the conduct of everyone about us. We all know the man who thinks women are most despicable creatures; look for the woman who turned him down. We know the woman who thinks jewelry is vulgar; but give her the money with which to buy and we may predict that she will be decked out like a Christmas tree. We know the soured people who think that good looks do more harm than good, that success is a vain delusion, that marriage is a failure, that money is the root of all evil, that true love does not exist.

Characters who are prone to such rationalizations are good material for secondary rôles in the story, but do not try to make heroes or heroines out of them—unless it is a comic story. Ring Lardner in his baseball narratives makes a liberal use of this and other types of alibi mechanisms and we chuckle in comfortable superiority at the dumbness of his puppets. But we all know that rationalization is a kind of weakness, a defense mechanism, and we have no great respect for the persons indulging in it.

#### POLLYANNA

Twin sister to the Sour-Grapes adjustment is the Pollyanna type. If the first is the denial of the



desirability of the unattained, the second is the affirmation of the desirability of the attainable. It is just being glad. It is exclaiming with delight over a small and dirty crust when a whole plump loaf was needed. Pollyanna, you may recall, even found reason to be glad when it rained on her wedding day. For the Pollyannas, every cloud has a silver lining—this is the best possible world, the great thing in life is to see the blessing behind the bruise, the success in the apparent failure. If we cannot get out of our cage, it certainly is nice and cool here in the shade on the inside. Simple pleasures are best. A little apartment is so much cozier. If we do not always get what we want out of life, the things we do get are exactly what we really needed and a kind providence took the ordering of things out of our stupid hands and sent us what was really for our greatest good.

As a type of adjustment the Pollyanna way is to be preferred to the Sour Grapes. In fiction and in real life we are apt to like these cheerful people who keep smiling when they are blocked. The smile may, of course, become rather fixed and glassy and sickening; Pollyanna's in the story has that effect on some. But only the cynical philosopher would point out that the cool shade of the cage will never compensate for the belly pangs of the hungry cat, and that the Pollyanna adjustment, however socially desirable it may be, leaves the individual just where he started—inside his particular cage, looking out.

We have just spoken of Ring Lardner's baseball



stories as affording excellent examples of our Sour Grapes adjustment. His heroes are even better in the use of what we shall speak of as the *projection of the blame*.<sup>1</sup> It is nothing more or less than our old friend the alibi. Rip Van Winkle projects the blame for his condition upon his wife, whose sharp tongue has brought him to his unhappy state. It is a favorite device in real life. All of us are prone to put the blame for our inefficiency and failure upon society, environment, early training—any place but upon our own precious selves. Only our wonderful forbearance, our angelic fortitude, has enabled us to survive the jealousy, the narrowness, the selfishness and the stupidity of these clumsy people who are the cause of all our shortcomings.

#### REFLECTED GLORY AND IDENTIFICATION

If one fails to get personal glory and success there is frequently an opportunity to borrow a little. One can always join some select club, or get invited to the home of a socially inclined aristocrat, or get mentioned in the newspaper as being present at an exclusive function. Frequently there is a near relative of fame and importance, and that fact may be taken advantage of in practically any ordinary conversation. As a last resort one can go in for ancestors. Everyone has ancestors and it is only a question of going back far enough to find a good one. Monu-

<sup>1</sup> This concept and much of the preceding discussion is based upon the analysis by Gates, A. I., *Psychology for Students of Education*, chap. ix. New York, The Macmillan Company, 1923.

ments should be erected to heroes, not only for their accomplishments in life, but for the comfort they bring to their less famous descendants. Those unbelievably prolific individuals who suffered the discomforts of the trip to America on the crowded *Mayflower* accomplished far more than they guessed, for they made possible the pleasing sense of superiority which blesses many an otherwise unimportant man or woman of today.

Occasionally we find a personality built around this quest for reflected glory. Some men spend their whole lives tagging after a famous father or brother, being Boswell to some leader of art or letters, or functioning as a "yes man" for a captain of finance. Sometimes this devotion may be ascribed to loyalty and love. More frequently it is simply due to a desire to be near the seat of power, to breathe the same air as the successful one, to get the sense of superiority, if only at second hand.

This desire also appears in the guise sometimes known as *identification with superiors*. Hero worship is a common form. We choose for our heroes those whom we would like to resemble. Boys make a hero of Babe Ruth, or some great general, or a famous prize-fighter, or a well-known movie star. The chronicle of the doings of this hero is read with the greatest interest. The most insignificant detail of his daily life becomes a matter of importance. His words are revered as coming from an oracle. A memento, something that he has touched or used, is held sacred and priceless.

A part of this behavior should probably be ascribed to an instinctive submissiveness which is a necessary corollary of an instinct of mastery. More important, however, is the identification tendency. The boy who reads of the exploits of a famous ball-player is for the moment *himself* wielding the mighty bat, knocking the ball to the farthest corner of the field, receiving the adulation of the wildly cheering audience. What could be more satisfying?

Fiction-reading affords a similar satisfaction. A widely accepted and probably sound theory of our liking for stories is that we project ourselves into the narrative, playing in imagination the part of the hero or heroine, and thus vicariously experiencing the satisfactions which the barriers of environment keep us from enjoying in actuality. It is said that stories of passionate love find ready sale near girls' colleges. Many a college professor who never touched a gun in his life revels in tales of adventure, murder, mystery, and crime. The poor like to read of the home life of the wealthy. The tired stenographer, hanging to her strap in the street car, devours the tabloid pictures of society butterflies disporting themselves in gilded leisure. Reading is an escape. It affords release from the monotony, the repressions, the failures with which our lives are burdened.

Lastly we have the *identification daydream*. A wonderful example of this is presented in the recent novel by Wells, *Christina Alberta's Father*. The central figure, an insignificant middle-aged gentleman who all his life has been much caged around

by a variety of bars, including a slave-driving wife, discovers in his declining years the surprising fact that he is not just a nonentity, as he and everyone else had supposed, but is really Sargon, King of Kings, reincarnated, and with a great part to play in modern English history. To his daughter's distress he shuts himself up, mentally, with this pleasing idea, and proceeds to elaborate it to such an extent that he ends in an insane asylum. The interesting and distinguishing feature here is the identification with a great hero of the past.

In *His Majesty*, Bunker Bean Harry Leon Wilson gives us a variation of this same idea, Napoleon being selected as his ideal by the insignificant Mr. Bean. Lagerlöf's *The Emperor of Portugallia* portrays the same trend, as does Lord Dunsany's *The Coronation of Mr. Thomas Shap*. All of these cases are not remotely related to the common foster-child idea which tortures many people in youth. Here the individual, impressed perhaps with his own splendid personality, is at a loss to explain why he should have been born in such humble surroundings, and presently hits upon the comforting theory that he is a foster child and that his real parents were of royal blood or in some other way distinguished.

#### BOASTING AND THE DAYDREAM OF POWER

One form of *indirect attack* which we did not note when dealing with that type of adjustment is the *assumption of superiority*. It sometimes happens that

if we act successful and say we are successful, other people may be credulous enough to believe us for a time. To the extent that it works, this mode of behavior deserves to be charted as a way over the barrier.

In general, however, boasting and display are recognized for what they are—attempts at getting an undeserved superiority. People know that it is the little man who struts importantly. They know that the really big man can afford to go carelessly, for he has no doubt of himself, no need to bolster up his self-esteem. Because people know this, the assumption of superiority is likely to defeat its own ends.

Ordinarily such failure would cause this way of reacting to fall into disuse. It happens, however, that it is satisfying to play at being superior, even if other people refuse to enter into the spirit of the game. For this reason we find individuals putting on airs, making gestures, attempting displays, blustering, criticizing others. In some cases they probably realize what they are doing, know that they are merely whistling in the dark in order to reassure their own pride. In many cases there is no insight. The person simply gets a thrill from swaggering, and persists in it blindly, ignoring the smiles with which his mannerisms are greeted.

The introvert analogue of the assumption of superiority is the *daydream of power*. The classic example is the sad case of the milkmaid. She was, we may suppose, a poor, shabby girl, her desire for



mastery blocked at every turn. In this dilemma she had recourse to her imagination, as we are all prone to do. Starting with the pail of milk which she carried on her head, she forged a chain of imaginary circumstances which would give her the satisfaction she desired. She would sell the milk. With the money she would buy some eggs. She would set the eggs. Then she would sell the chicks and with that money buy a new dress. She would wear this dress to the fair and the squire's son would see her in this becoming gown, would seek her out, would fall in love with her, would marry her. They would have a fine home, beautiful children, costly equipage—all the things that she could see dangling so alluringly just beyond the bars of her cage. And then she would come back to the village, clad in silks and satins and riding in her coach and four. And the village people, those who had treated her so badly, would now shout aloud and bow low to do her honor. But she, disdainful, would toss her head and ride away. And suiting the action to the thought, she did toss her head, and thus in a moment all her hopes were dashed to the ground and she was again but a milkmaid in a dirty dress.

Unfortunately—or fortunately—most daydreams are thus shattered by the sharp impact of reality. The dreamer awakes, still behind the bars. For most of us reality keeps pricking so persistently that our day-dreaming habit never becomes more than a pleasant pastime to be indulged in rare moments of care-free reverie. Occasionally an individual shuts him-



self in with his dream, convinces himself that he is Alexander the Great, let us say, and that all these pleasant nurses are his servants and all these solemn doctors are his prime ministers. In this day of comfortable insane asylums one wonders if such logic-tight withdrawal from reality is not a fairly effective way of dealing with the relentless bars of the inescapable cage.

In the realm of normal or near-normal daydreaming, there are plenty of examples in literature. *Peer Gynt* affords some excellent specimens. The father of Tess, in *Tess of the D'Urbervilles*, indulged in a good deal of fantasy. In modern writing, Merton, in the novel, *Merton of the Movies*, had a considerable amount of pleasure in picturing himself as what he was not. Well handled, it is a device with which we as readers are likely to be more or less sympathetic; it strikes a responsive note in our own secret experience.

#### THE CHARACTER THAT REVOLTS

To get back to the cat in the cage, this time a big cat, a lion, in the zoo. Not long since I watched such a one pacing back and forth, back and forth, swinging his majestic head in a bored and weary fashion. Suddenly he stopped. He appeared to look at the bars of his cage. Somehow they seemed to infuriate him. With a roar he began tearing at them, trying to smash through. But he soon desisted from that hopeless effort. He simply stood and roared. As I

walked away, far across the park, I could still hear him roaring his anger and defiance.

Some people react thus to the bars that hem them in. There was the Hairy Ape, for example. Or the Phantom in the *Phantom of the Opera*, or, in a slightly different fashion, Gregers in *The Wild Duck*. To take a character from real life, we have Lord Byron, lashing out against the circumstances and the people who checked his pride. Perhaps it is a twist of this mechanism that makes our agitators, our nihilists, our social malcontents. It is their way of reacting to restraint.

The introvert homologue of this mechanism is not quite clear. On the diagram we have set it down as the Suffering-hero Daydream, but the reasoning is not too close. At any rate, we must get this suffering-hero adjustment into the picture, for it is a rather interesting human quirk.

A good illustration is from Mark Twain's story of the return of Tom Sawyer to witness his own funeral. In the book it is not told as a daydream, but it is a perfect picture of what the daydream involves. Tom thought he had been rather badly treated at home. He ran away. He was given up as drowned. The little village gathered for the funeral, and Tom, safely hidden, heard what a wonderful boy he had been. What could be more satisfying? Most of us have had the same picture. Sometime when we have fancied ourselves mistreated, we have pictured our departure, our running away, our death in battle, our body returned. Then the sad

scene at the casket. Perhaps "She" came and stood and looked down on our poor dead face and knew at last how she had wronged us. Her heart was touched. Sobbing, she was led away. And all the time we were not dead at all. We were sitting right in our own room, dreaming the whole thing.

It is, perhaps, not a long step from this to some of the ideas of the insane. One symptom familiar to the alienist is hallucinations of persecution, frequently coupled with delusion of grandeur. The unfortunate individual who thinks that "the interests," or the Jews, or the Masons, or some other organization or persons are following him, hounding him day and night, is a well-known and pathetic figure in the insane wards.<sup>1</sup>

#### SCHEMES AND INVENTIONS

We have said that the normal reaction to the blocking situation is more mental and physical energy. It sometimes happens that this response is made, but in a wavering and poorly coordinated fashion. A familiar example is the behavior of the in-

<sup>1</sup> For further discussion of this topic see the chapter on "Repressed Emotions in Literature" in the book, *Repressed Emotions*, by Isador H. Coriat, New York, Brentano, 1920. Coriat analyzes Sologub's novel, *The Little Demon*, which tells the story of the schoolmaster, Peredonov, who is promised the inspectorship of schools if he will marry his mistress. A mental conflict occurs and "The thwarted desires of the schoolmaster finally crystallize into clearly formed delusions of persecution; in other words, Peredonov becomes the victim of a mental disease known as paranoia—a type of mental reaction where the affected subjects are inclined to see a sinister meaning in things and to misinterpret actual occurrences" (p. 91).

dividual who is given to "enthusiasms." Confronted by a problem, he becomes a whirlwind of activity. He must have voluminous notebooks for his calculations. He must have pencils of just the right softness, a desk of just the correct height, the light in the most effective position. His energy of preparation knows no bounds. Unfortunately, when he gets around to the actual work he is apt to be so fatigued that he can do no more that day. When the morrow comes a new and more brilliant scheme demands his attention, and thus the days and weeks pass and with them a lifetime, cluttered with the hulks of half-finished undertakings.

Closely akin is the making of fantastic plans, wonderful inventions. We have all known that expansive mental state in which the most improbable schemes seem inspired possibilities. It is especially likely to occur when we are wakeful at night and fall to building glorious fabrications of the imagination. Some one has remarked that none of these night plans ever became a daylight reality.

Some people form the habit of spending most of their time on these fruitless, visionary projects. They include our wild-eyed inventors whose ideas are always in the paper stage. Here belong our would-be writers who have the splendid plot that only needs to be put into words. Here also belong our utopian dreamers, our reformers who never reform. Their common characteristic is a lack of balance between time spent on planning and time spent on execution.

They illustrate the misdirection of a useful human capacity.

#### IMPOTENCE AND THE INFERIORITY FEELING

The psychoanalytic school of psychology has made much of the *feeling of inferiority* as a source of motivation. It is assumed that the individual who fails is keenly conscious of his shortcoming and is driven to strenuous efforts to *compensate* for his inadequacy. Adler<sup>1</sup> is usually credited with the development of this concept. He noted that an organic weakness tends to be accompanied by an increased activity on the part of some other organ. Thus impaired vision may result in the development of more acute hearing. The same thing happens in the mental sphere, and we have the individual adopting many of the expedients mentioned earlier in this chapter, such as boasting, daydreaming, and so on. As one author has expressed this idea, "the predominant traits of character are the result of an effort on the part of the individual to overcome his feeling of inferiority, resulting from an inferior organ."<sup>2</sup>

In general it is perhaps sounder to think of these compensatory mechanisms simply as expedients adopted by the individual in his trial-and-error at-

<sup>1</sup> Adler, Alfred. *The Neurotic Constitution*, tr. by Gluck and Lind. New York, Moffat, Yard & Co., 1921.

<sup>2</sup> On this subject see Vaughan, W. F., "The Psychology of Compensation," *Psychological Review*, 1926, vol. xxxiii, pp. 467-479. Among others he lists the case of Byron compensating for his deformed foot, Socrates and his flat nose, Edison and his deafness, Demosthenes and his defect of speech, Roosevelt and his early ill-health.



tempts at escaping from his barriers. They represent channels of expression of the instinctive striving for mastery which we have assumed to be the driving mechanism behind the individual's behavior.

If this analysis is sound, the feeling of inferiority becomes somewhat less important in the general scheme of adjustments. It should be regarded as the mental state accompanying impotence and failure. By its discomfort it serves to guide the individual in his efforts at finding a way out of his difficulties. It is not the sole cause of those efforts, as is sometimes assumed.

#### THE SHUT-IN PERSONALITY

A familiar type of insanity is characterized by profound apathy and mental withdrawal from the world of reality. The unfortunate sufferers "express neither joy nor sorrow, have neither desire nor fears, but live from one day to another quite unconcerned and apathetic, sometimes silently gazing into the distance, at others regarding their surroundings with a vacant stare."<sup>1</sup>

Investigation shows that in many cases these patients early in life showed symptoms of the development of a *shut-in personality*. The characteristics of such a personality are important in our scheme of reactions, for they illustrate ways of adjustment that are widely adopted by so-called normal people.

<sup>1</sup> Diefendorf, A. R., *Clinical Psychiatry*, p. 226. New York, The Macmillan Company, 1915.



The shut-in individual is one who has met the barrier by withdrawing from it. In childhood he is apt to substitute daydreams for the normal active interests of the average child. Usually he is not strong physically. He forms the habit of conserving his energies instead of spending them lustily. Probably he falls to brooding over his physical condition. His thoughts become morbid, out of touch with the real world and his relation to it. His contacts with other people are not robust, vigorous, human. Gradually he retreats into his own mental world, and no other person can know what that world is except by inference.

This is the final, the most tragic way of meeting life's barriers. It is the flight from reality, the withdrawal into self, mental and physical vegetation.

Here are some of the ways that human beings have of dealing with the barriers which beset them. We do not pretend that this is an exhaustive list; human nature is complex and every individual in his trial-and-error behavior hits upon unique adaptations. It is the work of the writer to catch these individual variations, recognize their relation to the great central theory of Want, Barrier, Struggle, and Solution, and weave them into a convincing portrayal of character.

## CHAPTER FIVE

### THE RÔLE OF SEX

EVERYONE knows that it is love that makes the world go 'round. For some people at some times it can even make the world go around backward. There are, of course, a number of other factors which may contribute to this happy consummation, but, in popular psychology at least, love is the great day-in-and-day-out dynamo of human behavior. It is but natural that such a powerful source of motivation has not been overlooked by the writer, and down through the ages literary men have managed to portray about every twist and turn of this complicated and complicating emotion. Clearly our present attempt at presenting a scientific psychology for writers must include a chapter on this important topic.

It is obvious that one way to know about love is to go out and experience it. Every writer might profitably employ this formula, in moderation, although the best love stories will continue to be written by inhibited individuals who have never even held hands or "necked" a bit, to use the expressive terminology of the experts of the younger generation. It is said that the most glowing description of a kiss ever penned, a rapturous, South Sea Island kiss, that lasted through three passionate pages, was presented to an astonished editor by a demure and virginal old maid who had never been out of the

Indiana town in which she was born. Which, of course, proves nothing—except that the atmosphere of Indiana is favorable to literature. For the average writer a judicious amount of first-hand experience will continue to be a fundamental preparation for injecting the love interest into his story.

Theory, however, should go arm in arm with practice. What is the psychology of this experience called love? Why its tremendous urge? What are the common adjustments when love is blocked? How may a knowledge of all this help the writer?

For the scientist, of course, love goes back to the more fundamental urge usually called the sex instinct. Freudian psychology here employs the term *libido*, "the force through which the sex instinct expresses itself." Freud has compared this erotic desire with hunger, through which the instinct of nutrition expresses itself. For this school of psychology the concept of sex is broader than that adopted by other students of the science, being enlarged to include various infantile reactions such as thumb-sucking, narcissistic adjustments common to adolescence, and adult types of love not usually consciously sexual in origin.

In the following pages we shall employ much of the Freudian terminology in our description of the different manifestations of the sex instinct. The point of view presented is not always in sympathy with psychoanalytic interpretations, but it must be admitted that in many respects Freud and his students have gathered together an enormous amount

of material of the greatest interest to writers and a full survey of our subject involves a liberal use of these psychoanalytic sources.

#### THE BARRIERS TO THE SEX INSTINCT

Whatever our concept of the relation of sex to the various manifestations of love, we must all agree that the blocking of this great urge by the many barriers erected by society, and by physical and physiological conditions, results in peculiarly rich and varied types of struggle and adjustment. Sex desire is always being hindered. The individual is always trying to find an adequate outlet for its expression. We return here to the scheme presented in the last chapter, substituting the sex drive for the mastery drive, and a slightly different set of barriers for the bars of the cage. (See Fig. 12, page 101.)

Sex is more hemmed in by barriers prohibiting its free expression than any other of the major human instincts. The more important of these barriers are indicated in the accompanying chart. Of these, tribal taboo is perhaps the most powerful. The evil results of promiscuous sexual indulgence are so important to organized society that the individual finds himself met continually by bristling "thou-shalt-nots." Physiologically, of course, there is no reason why man should not lust after his mother or his sister or his daughter or his neighbor's wife. Practically, if the truth be faced honestly, he does frequently experience such lusts. Social repression, however,

early steps in to bar any outward expression of these desires and in the case of the well-inhibited adult even the consciousness of the urge may be avoided. The smooth, even surface of the mental life of the modern social man gives little hint of the "disgraceful" thoughts that he has managed to suppress or to divert.

In final analysis, the barrier thus erected by taboo is effective because the social stimulus is potent to elicit ways of action in the individual that are incompatible with the free gratification of the sex instinct. Thus, the social situation may arouse in the sexually excited individual such a strong fear and withdrawal reaction that the sex impulse is side-tracked, in whole or in part. Or, to take another case, the mastery desire may be involved, the observation of social restrictions frequently leading to social preferment and their flouting to social ostracism. For some individuals the desire for mastery is very strong, with the result that in case of conflict the wish for social superiority may overcome the desire for forbidden sex gratification. The barrier is thus a barrier only because it serves as a stimulus to powerful antagonistic mechanisms.

The concept just presented is essentially the same as the Freudian theory of *mental conflict*. A conflict results, it is said, "when two elements or systems of elements are out of harmony with each other."<sup>1</sup> When such elements of mental life, possessing a

<sup>1</sup> Healey, Wm. *Mental Conflicts and Misconduct*. Boston, Little, Brown & Company, 1919.



strong emotional tone, are "pushed back out of mind" they are said to be *repressed*. Psychoanalysis has made much, perhaps too much, of this process of repression. Stress has been placed on the idea that the repression of the elements does not necessarily mean a cessation of their activity. This activity is commonly pictured as taking place down in the catacombs of the mind, so to speak, where the repressed ideas hold their witches' feast, with only faint reverberations of their diabolical activities ever breaking through to the nicely schooled consciousness of their unfortunate host. This subterranean rendezvous is usually designated by the technical term, *unconscious*.

The Unconscious as ordinarily used may be defined as that part of the mental life of the individual lying outside of the general field of attention. In theory the materials thus existing in the unconscious rarely break through into conscious life because of the resistance to them set up by a rather mythical entity referred to as the *censor*. In order to escape the vigilance of the Censor these repressed ideas are supposed to have recourse to various disguises, safely cloaked in which they manage to creep past the guardian watch-dog and in their symbolic forms disport abovestairs, displaying themselves in dreams, in linguistic slips, and the like.

From many points of view it seems desirable to express these concepts of repression, censorship, and symbolism in somewhat less mystical terms. Cer-



tainly barriers do exist and, because of the mutual antagonisms of systems of reaction and the practical impossibility of all of them simultaneously controlling the bodily mechanism, a great many human wishes must be frustrated. It would seem that this simpler concept of frustration might ordinarily serve better than a more elaborate concept of repression. A man cannot swallow and breathe at the same time, and of necessity one or the other of these ways of reacting must be occasionally side-tracked. When such frustration occurs the "repressed" activity does not necessarily retire to some dark corner of the mind, there to lash its tail and lie in wait, ready to spring out in some fanciful and disguised form. Rather it is to be thought of as existing in exactly the same way as hundreds of other unused but potentially active reaction mechanisms. Each one of us at any one moment is carrying around a multitude of potential reactions in the form of neural pathways, which under proper conditions may be called upon to function. These are analogous to the grooves on the phonograph record when the record is not being played. It seems no more necessary to refer to unexpressed human longings as existing in an unconscious than it does to speak of the music of the silent phonograph as prowling around in the unconscious of the machine.<sup>1</sup>

We have noted social taboo as one of the barriers to the free expression of sex. The part played in

<sup>1</sup> See Woodworth, R. S., *Psychology*, p. 533. New York, Henry Holt & Co., 1921.

sex and love by the other barriers tabulated in Fig. 12 is so much the subject of commonplace observation that no further comment is needed. Economic situation, fear of disease, youth, impotency, unwillingness of the sexual object, financial barriers, conflict with other desires, social situation, physical disability—all of these are constantly at work molding the reactions of the individual. It is from this list of barriers that the writer must choose the particular one that will best serve the purposes of his romance.

#### REACTIONS TO THE BARRIERS

The reactions of individuals to the barriers just described are even more varied than in the case of the mastery desire dealt with in the last chapter. As in the case of mastery, the normal result of blocking of sex is the increased liberation of energy directed toward realization of the subject of desire. This energy must manifest itself in countless unexpected and unusual forms, which are the rich source from which the writer constantly draws his plots. In Fig. 12 are indicated the more important of these forms.

The ordinary expression of the adult sex impulse in modern society is the overcoming of the obstacles and the conventional, normal marriage. This is indicated in the diagram by placing this heading beyond the barrier. It is indicated in fiction by the end of the story, since for fictional purposes there is nothing

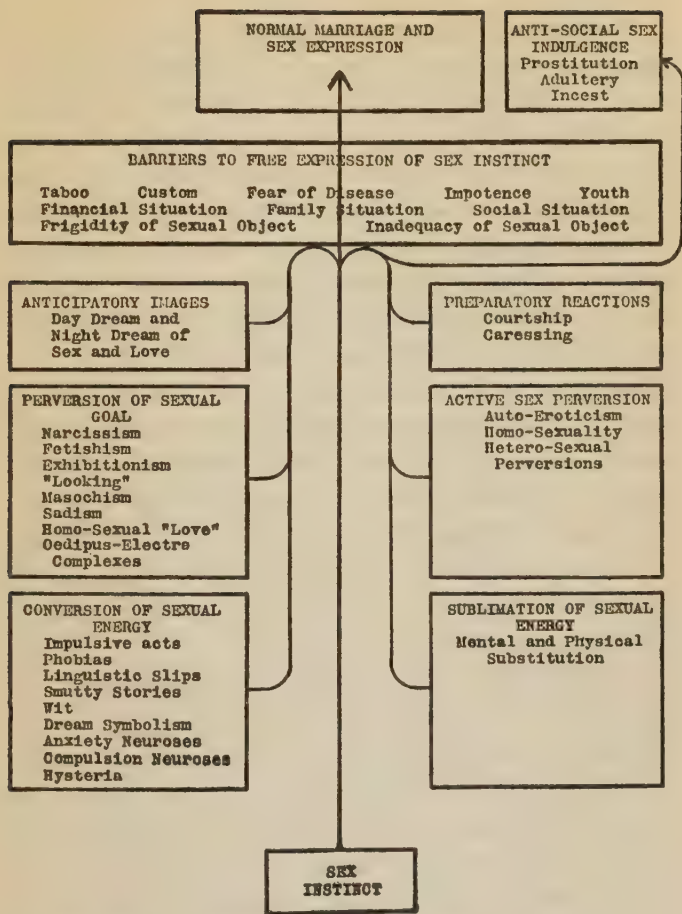


FIG. 12

more to be said after the barriers have been surmounted.

In the same diagram we have indicated a second way of reacting, which also places the individual outside the barrier. This mode of escape consists in smashing social taboos and pushing through to sexual gratification in defiance of conventional morality. Adultery, incest, and other extra-legal relationships belong under this heading. It should be noted that just as in the case of mastery desire, where the various unsocial adjustments such as pouting, malingering, and the like were found to be real methods of satisfying the immediate desire of the individual, so in the case of the sex impulse those socially wrong reactions are still physiologically satisfying and efficient. That fact must serve as an excuse for placing them on a par with the adjustments of normal marriage, instead of relegating them to the lower part of the diagram with the large group of substitute adjustments there recorded.

Of these substitute adjustments the one which we have labeled Courtship probably least deserves to be placed in that category. Psychologically courtship consists of the preparatory reactions leading up to sexual experience. To be consistent with the general idea that we are presenting we must arbitrarily place these inside the barrier, since they occur before the barrier has been passed, but certainly they should be considered as of a different order than the other types of adjustment there located.

## SUBSTITUTE ADJUSTMENTS IN THE CASE OF SEX

Since the sex desire is so strong, and since the bars to its expression are frequently so nearly insurmountable it is inevitable that the dammed-up energies inherent in this mechanism will be found escaping through a great number of spillways. A common form of such escape, analogous to the fantasies of mastery, is the *daydream* of successful courtship. In this dream the amorous individual pictures the happy consummation of his campaign of conquest, calling up images more or less frankly sexual, according as his inhibitions are strong or weak. The tendency may in a similar fashion find expression in night dreams of love and gratification.

A second and far more important type of adjustment consists in the derivation of sexual satisfaction from stimuli other than those normal to the sex act. Under this heading we may classify the great variety of sex perversion. It seems convenient to subdivide these perversions further into two groups, namely those resulting in orgasm and those not thus resulting. Of the first group the three commonest forms are auto-eroticism, homo-sexual relationships, and hetero-sexual perversions. This group is of little importance in our present discussion.

The second group of perversions affords a more fertile field for the writer. In this group we have listed such auto-erotic reactions as do not result in orgasm, together with narcissism, fetishism, exhibitionism, looking, masochism and sadism. Many of



these are of considerable interest in fiction and an elaboration of each will be in order.

The Freudian psychologists have called our attention to the erotic character of various types of behavior which are not generally recognized as belonging in this category. They have introduced the concept of *infantile sexuality*, insisting that what is commonly called sex develops from a kind of undifferentiated beginning. This early sex tendency they find to be manifest in such acts as finger-sucking, interest in excrement, and the like. Some of these early types of adjustment frequently persist into adult life, finding expression in various auto-erotic practices. In theory this early auto-erotic period is succeeded by the narcissistic period of adolescence, or by a period of homo-sexuality which in turn is normally followed by the adult hetero-sexual attitude. Bousfield<sup>1</sup> expresses the theory that the infant is 100 per cent auto-erotic. He thinks that the twelve-year-old is 40 per cent auto-sexual, 50 per cent homo-sexual and 10 per cent hetero-sexual. He estimates that the normal adult is 20 per cent auto-sexual, 30 per cent homo-sexual and 50 per cent hetero-sexual.

From the point of view of the writer, some interesting elements of character portrayal are to be discovered in this concept of sexual evolution and in the accompanying idea of sexual infantilism. Many characters in literature and many producers of literature afford examples of failure of the individual

<sup>1</sup> Bousfield, Paul, *The Elements of Practical Psycho-Analysis*. New York, E. P. Dutton & Co., 1920.



to arrive at emotional and instinctive maturity, though on the intellectual side development may be approximately normal.

As an example of such emotional infantilism we may take the case of Stevenson, as brought out by recent biographers. While the present writer does not agree with many of the essential details of the picture as drawn, the following quotation from Collins<sup>1</sup> is offered as a good delineation of the type of character under discussion.

There is a feature of Stevenson's personality that has never been touched upon . . . and that is his infantilism. It was his curse as it was in a large measure his shame. It showed itself in many ways: in his relationship to his mother, to Alison Cunningham, "Cunny, my second mother," to Lady Colvin and to his wife; in his speech, dress, manner and imitativeness; in his gestures; in his emotional reactions and determinations; and more than anything else in his inability to display common sense and ordinary prudence. He was always under the dominion of women older than himself and he enjoyed it; they all mothered him. He had no more capacity to get along without mothering than a ten-year-old child has. He was as interested in his appearance as Narcissus. "He could not be in the same room with a mirror but he must invite its confidence any time he passed it; he was never so much in earnest, never so well pleased, never so irresistible as when he wrote about himself," Henley

<sup>1</sup> Collins, Joseph, *The Doctor Looks at Biography*, p. 142. New York, George H. Doran Company, 1925. Quotation by special permission of publisher.

wrote and all his biographers agree. That this is a childish trait, no one needs to be told. His speech, manner and dress never failed to attract attention and he took great pains that they should not. Yearning for notice and efforts to secure it are equally well-known infantile traits. Many children invent fictitious parents and forebears. Stevenson was one of them. Mr. Steuart has discovered that one Margaret Lizars of French descent was his great-grandmother, and he naïvely remarks that this explains Stevenson's oddities. His imitativeness is testified to by the way he taught himself to write and this incident is discussed in the book under consideration in a chapter entitled *The Sedulous Ape*. . . . His dealings with his father, his meeting and courtship of Mrs. Fanny de Grift Osbourne, his break with Hensley, all conform to the teachings of child psychology and are harmonious with child-behavior, and they are even more suggestive of infantilism than are the playing with tin soldiers, and the setting up and operating a toy press, which was his diversion at Davos, when, in his thirty-first year, he sought health there for a second time.

In this paragraph certain aspects of conduct are to be noted which are usually classified under the general term *narcissism*. As the term implies, the narcissistic individual has taken himself as the loved object, and is gratified by dwelling upon and reflecting upon his own body or personality. The narcissist, according to McCurdy, "is one whose libido derives no satisfaction from attachment to other persons, but is occupied with his own personality." It is usually

thought of as being characteristic of the pre-adolescent individual, as a stage coming in between infantile sexuality, on the one hand, and the more normally hetero-sexual interest of late adolescence and adulthood on the other. It is occasionally found that this narcissistic attitude persists into adult life and we have such characteristic performances as that described by Walt Whitman in his "Song of Myself," where he says:

Having pried through the strata, analyzed to a  
hair, counsel'd with doctors and calculated close  
I find no sweeter fat than sticks to my own bones—

. . . . .

Divine am I, inside and out, and I make holy whatever I touch or am touched from.

The scent of these armpits aroma finer than prayer,  
This head more than churches, bibles and all the  
creeds.

If I worship one thing more than another, it shall  
be the spread of my body or any part of it.

Translucent mould of me it shall be you! <sup>1</sup>

It is frequently hard to distinguish the narcissistic adjustment from that which is spoken of as *exhibitionism*. Psychologically the narcissist is interested in himself, the exhibitionist in the sexual excitement of another individual through the exhibition of self. To the onlooker, the effect may be similar. A case in point is to be found in Sherwood Anderson's *Many*

<sup>1</sup> Whitman, Walt. *Leaves of Grass*. In Everyman's Library. New York, E. P. Dutton and Co., 1912. Pp. 40 and 45. Quotation by permission of publisher.

*Marriages* where the elderly manufacturer prances around his bedroom in the nude, to the scandal of his family.

More clear-cut examples of exhibitionism are to be found in those instances where an author deliberately indulges in suggestive, pornographic writings. Farnell<sup>1</sup> cites Boccaccio's *Decameron* as an example in this connection.

As a parallel to the exhibitionist we have the *voyeur*; while the exhibitionist derives gratification by being looked at, the voyeur is gratified by looking. He may thus spend hours or days in an attempt to secure forbidden visions of the body of the sexually desired individual. Most men probably have a little of the voyeur in them and most women are perhaps inclined to exhibitionism.

#### SADIST AND MASOCHIST

Just as we have bracketed together the voyeur and the exhibitionist, so may we also pair off the *sadist* and the *masochist*. The masochist derives sexual gratification from the experiencing of pain, the sadist from its infliction. In general, masochism is a feminine reaction, sadism a masculine.

Sadism is so called after the famous Marquis de Sade (1740-1814), who collected numerous examples of this peculiar perversion. Coriat<sup>2</sup> remarks that an excellent example of sadism in history is

<sup>1</sup> Farnell, Frederic J., "Erotism, as Portrayed in Literature." *International Journal of Psychoanalysis*, vol. i, 1920, p. 397.

<sup>2</sup> Coriat, Isador H., *Repressed Emotions*. New York, Brentano, 1920.

Gilles de Retz of Brittany, the original Blue Beard, who was executed for lust murder at Nantes in 1440. He also cites the character of Iago as typifying repressed cruelty and the enjoyment of the pain of others. It is interesting to note in this connection his theory that neurotic anti-vivisectionists are individuals whose unconscious sadistic tendencies to inflict pain on others are covered up or compensated by an over-tenderness for animals. Other writers have suggested that morbid interest in and demand for the extreme punishment of criminals is sadistic in its nature. The enjoyment of prize fights has also been mentioned as a sadistic outlet.

One of the best examples of sadism in fiction is the portrayal of the character of Crispin in Walpole's *Portrait of a Man with Red Hair*. With wonderful artistic skill the author shows the origin of Crispin's perversion in a childhood experience of being beaten by his father. On the basis of this early experience, pain and its infliction presently came to be the great principle of life, the great secret. Crispin in telling his story to Harkness, whom he "loved," says:

"It was to that night in the Bloomsbury house that I owe everything. I was fifteen years of age. He stripped me naked and made me bleed. It was terribly cold, and I came in that bare room right into the very heart of life, into the heart of the heart, where the true meaning is at last revealed—and the true meaning . . .

"Should not then we, in our turn, realizing that Pain is our greatest happiness, seek, ourselves, for



more pain, and also teach our fellow human beings that it is only *through* pain that we can reach the true heart and meaning of life? Through pain we reach Power.

"I test you with pain, and as you overcome the pain so do you climb up beside me, who have also overcome it, and we are in time as gods knowing good and evil—A concrete case, Mr. Harkness. I slash your face with a knife. You are so powerful that you take the pain, twist it in your hand and throw it away. You rise up to me, and suddenly I, who have inflicted the pain on you, love you because you have taken my power over you and used it for your soul's advantage."

"And do I love you because you have slashed my face?" asked Harkness.

Crispin's eyes narrowed. He put out his hand and laid it on Harkness's knee.

"We would have to see," Crispin murmured. "We would have to see. I wonder—I wonder . . ." <sup>1</sup>

In another place Crispin's daughter-in-law, in explaining her great fear of him, tells of various incidents illustrating his insane enjoyment of the infliction of pain:

"Then one day I came into the library upstairs and found him with a dog. A little fox-terrier. He had tied it to the leg of the table and was flicking it with a whip. He would give it a flick, then stand back and look at it, then give it another flick. The awful thing was that the dog was too frightened to howl,

<sup>1</sup> Walpole, H. *Portrait of a Man with Red Hair*. New York, George H. Doran Co, 1925. Pp. 164 and 229. Quotation by special permission of publisher.



too terrified to know that it was being hurt at all. He was smiling, watching the dog very carefully, but his eyes were sad and unhappy."

Masochism is the pathological enjoyment of suffering. Says Freud of the individuals making this adjustment, "as if to balance the scale, we have on the other hand the masochist, whose sole satisfaction consists in suffering every variety of humiliation and torture, symbolic and real, at the hands of the beloved one."<sup>1</sup>

Julie and her daughter in Molnar's "Liliom" are good examples of such reactions. Near the end of the play, when Louise has been struck by Liliom (who is markedly sadistic in temperament), she tells her mother:

"Mother—the man—he hit me—hard—but it didn't hurt—it was like a caress . . . just as if he'd kissed my hand instead. . . ." And later Julie says, "It is possible, dear—that some one may beat you and beat you, and not hurt you at all."<sup>2</sup>

We have noted above that in psychoanalytic theory the individual passes through a homo-sexual period in his development and that in many cases this interest in persons of the same sex persists into adult life as a permanent adjustment. Whitman, quoted in a preceding paragraph, has frequently been cited as an example of this adjustment, and certainly the reader

<sup>1</sup> Freud, S. *General Introduction to Psychoanalysis*. New York, Boni & Liveright, 1920. P. 264.

<sup>2</sup> Molnar, F. *Liliom*. New York, Boni and Liveright, 1921. Quotation by special permission of publisher.

of "Calamus" will be impressed by evidences of the tendency. Of course the most famous literary figure usually thought of in this connection is Oscar Wilde, and there is no doubt that the disturbances in his emotional development played an enormously important part in his career.

#### THE ŒDIPUS AND THE ELECTRA COMPLEXES

We have said earlier that there is no reason in nature why an individual should not feel a sexual attachment for his blood relatives. Such an attachment violates the incest laws of society and is hence forbidden. The resultant struggle within the individual frequently leads to the development of a group of emotionally colored associations which is ordinarily referred to as a "complex." The mental associations in the case of the male who has suffered a fixation of his infantile attachments to his mother is spoken of as the *Œdipus complex*, and when there occurs such an attachment of the daughter for her father, the term *Electra complex* is used. These terms come from the Greek myths of Œdipus and Electra, which formed the background of the "Œdipus Rex" by Sophocles and the tragedy of "Electra" of Euripedes. The story of Œdipus is, briefly, that it had been prophesied that he would kill his father, Laius, and marry his mother, Iocaste. In order to avoid this the father ordered the boy exposed to death by starvation. The lad, however, was found and cared for, and later, grown to manhood, returned

and did kill his father and married his own mother. For this incest he was punished. The story of Electra has a somewhat similar motif, in this case her love for her father.

The mother fixation and father fixation adjustment is found existing in all degrees, from a mild, harmless sympathy for the parent of the opposite sex, to a definitely pathological attachment. At the one end of the scale, for example, we have the reactions of little Jon in Galsworthy's *Forsyte Saga*, in the chapter called "The Awakening." Jon suddenly discovers that his mother is very beautiful. He announces that he does not wish to grow up, but wants to stay with her and be her lover. There is perhaps a slight antagonism to the father, but nothing approaching a real Œdipus complex.

A more definitely pathological case appears in the recent play, "The Silver Cord." Here the dominant, demanding mother holds the son, even against the pull of his love for his *fiancée*. During the World War the draft brought to light many such unfortunate cases of grown men bound to the mother by more than filial devotion.

Diderot in an oft-quoted passage from *The Nephew of Ramu* says: "If the little savage were left to himself he would preserve all his imbecility; he would unite the passions of a man of thirty to the unreasonableness of the child in the cradle; he would twist his father's neck and bed with his mother." This represents the extreme of the Œdipus situation. In most cases nothing so definitely pathologi-

cal as this occurs, yet in many families there is a subtle undercurrent of hostility to be traced directly to the sex attitudes of parents and children.<sup>1</sup>

#### SUBLIMATION AND CONVERSION

In connection with the reactions of the individual to the barriers to sex, Freudian psychology has developed two other concepts which seem to have practical value for the writer in the understanding of human behavior. According to the theory of this school of psychology, the energy arising from the conflict between the sex urge and the barrier may frequently be diverted into channels of activity which are socially useful and desirable. This is known as *sublimation*. On the other hand, the unpleasant emotion arising through repression of the sex desire may, failing of other outlet, find expression in various physical manifestations or symptoms the genesis of which is not recognized by the unfortunate individual who is thus the victim of the conflict. This is called *conversion*. In our present discussion we propose to use the term in a somewhat broader sense than that in which it is usually applied. For our purpose it may conveniently be employed to cover a host of both mental and physical adjustments made by the individual as substitute reactions when sexually hindered. At bottom, sublimation means essentially the same thing, except that it implies an adjustment

<sup>1</sup> For a good example see "The Sleep Walker" by Gibran, Kahlil, in *The Madman: His Parables and Poems*. New York, Alfred Knopf, 1918.

which is satisfactory from the point of view both of society and of the individual; conversion adjustments are usually unsatisfactory.

The traditional example of sublimation is the substitution of religious and social work in the place of repressed sexual activity. On the physical side strenuous exercise and various types of competitive performances are frequently mentioned as outlets for these passions. Fierce mountain streams, instead of being allowed to go tumbling boisterously to their outlet, are nowadays harnessed and put to doing useful work. By analogy many writers on mental dynamics have argued the possibility of transference of erotic desire from a sexual to a non-sexual occupation. Whatever the psychological and physiological efficacy of this plan, it is probably good stagecraft for the writer to show his unsuccessful lover turning to some of the approved sublimations. The nunnery and the monastery, the ministry and the settlement house are, of course, somewhat *passé* in modern fiction, but there still remain a number of "nice" occupations for our lovelorn characters.

#### A CASE OF CONVERSION

The concepts of conversion and substitution may best be introduced by the consideration of an actual case. This illustration is taken from Healey's *Mental Conflicts and Misconduct*<sup>1</sup> and deals with the

<sup>1</sup>Healey, William, *Mental Conflicts and Misconduct*, p. 156. Boston, Little, Brown & Co., 1919.



delinquency of John B., a frail little boy of eleven and a half years who was brought into the psychological clinic because his tendency to night wandering was occasioning much distress both to the lad and to his family. Examination showed that John had always been a delicate child, but appeared to be approximately normal mentally. Two months before coming to the clinic he had wandered away from home, not returning until morning. His family attempted to watch him closely in order to prevent a repetition of this act, but later he stayed away from home altogether, not returning from school in the evening at all. He had been found several times by the police, riding around on the street cars in the early morning. Sometimes he had told the conductor stories about being homeless or lost.

There was emphatically no home difficulty to account for his conduct. John himself admitted this. Apparently he was not quite clear in his own mind just why he should indulge in this distressing behavior; the impulse simply came and he obeyed it. It remained for a psychological analysis to reveal the hidden association which was the source of his actions.

John was asked where he got the idea of going on the night excursions. He explained that he had overheard a friend of his mother's talking about a boy who "stayed out nights." Presently it was revealed that this other boy was known to John and that he was a bad boy who had been John's instructor in sexual matters. John reported that this other boy said "bad words" and had "bad pictures." The



other boy had shown him some of these pictures of naked women. John confessed that he had been worrying about these pictures. "It's mostly in my mind, those pictures. It's hard to forget. Every time I think of it, I don't like it."

The analyst discovered that the impulse to go on his night rides came to John immediately after hearing the neighbor tell of the escapades of the boy whom John considered bad. The idea, he many times asserted, arose from his thoughts of this bad companion whom he could not forget because he could not forget the morbidly interesting pictures. "They always come in my mind," he complained. "Sometimes at night. When I'm in bed. . . . Lots of times they come up in my mind, those pictures. In school I would be talking to boys; it would start and I would be thinking of it. . . ."

John was never able to tell exactly his object in staying away all night. He remembered very distinctly how the idea came into his mind, but he could not say just what led him to go riding, even on those coldest nights, in street cars, when he could have been warm and comfortable at home. He could not describe any pleasure that he derived from his trips, nor, indeed, did he even allege that there was any pleasure or any idea of pleasure in taking them. He could only tell of the impulse and when it first arose. . . .

We thus see how an apparently unrelated bit of behavior came to be associated with an emotionally powerful idea. John repeatedly indicated that his

impulse to run away at night came from hearing that the bad boy had done this. John's reaction to moral standards prevented his adopting all of the forms of delinquency for which the other boy stood, but it evidently was possible for him to indulge in the night trips without too great a conflict. This type of misconduct thus came to serve as an outlet for the impulse to do what he considered a more serious transgression. It is important to note that for John himself the mechanism of this substitute response was not clearly evident at the time of its acquisition or repetition. Analysis with the resultant clarification served to sever the connection between the erotic impulse and this irrational form of adjustment, with the consequence that after his visit to the clinic John is reported as having exhibited no further interest in night excursions.

In a similar fashion Healey has shown that a long list of unsocial adjustments may be developed as a result of the conversion of the energy latent in the sex impulse. In this list of mental mechanisms we may note the following: general troublesomeness, mischief-making; stubbornness, obstinacy, chronic willfulness; truancy, vagrancy, remaining out overnight and running away from home; stealing, obtaining money under false representations, forgery; exhibitions of bad temper, deliberate malicious mischief and violence, general violent behavior; sexual offenses, cruelty, injury to others, or attempts to injure, self-injury, of a masochistic nature. He stresses in dealing with these dynamic mechanisms the inter-

esting fact that some wrong-doers do not get any particular satisfaction from the evil that they do, but that their actions are forced, so to speak, by impulses beyond their control. These impulses, as we have seen, he finds to be predominantly sexual in their origin, although their nature may not be clearly recognized.

#### OTHER TYPES OF CONVERSION

Healey has here developed in this particular field of misconducts the general concept of Freud that many activities of daily life which are ordinarily thought of as unmotivated may really be symptomatic of underlying trends. In elaborating this theory Freud<sup>1</sup> has analyzed scores of small actions such as mistakes in reading and writing, mistakes in mislaying objects, mistakes in speech, forgetting, apparently chance actions, and the like. His reasoning will not be convincing to everyone, but the basic idea is suggestive. As a simple example from literature, showing the part that the underlying wish may play in speech blunders, he presents a part of the scene between Portia and Bassanio in Shakespeare's "Merchant of Venice" (Act III, Scene II), which we may note because of interest for the writer.

It will be remembered that in the play, Portia, by her father's will, is to select a husband through lottery. By lucky chance she has thus far escaped all her distasteful suitors. She now fears that Bassanio,

<sup>1</sup>Freud, S. *Psychopathology of Everyday Life*. New York, The Macmillan Company.

whom she really loves, will be no more successful than the others. She desires to tell him that whatever the outcome she will love him, but her vow prevents her making such an open declaration. Her wish, however, does manage to express itself in the form of a slip of the tongue which involuntarily reveals the true situation. She says:

There's something tells me, (but it is not love,)  
I would not lose you; and you know yourself,  
Hate counsels not in such a quality:  
But lest you should not understand me well,  
(And yet a maiden hath no tongue but thought,)  
I would detain you here a month or two,  
Before you venture for me. I could teach you,  
How to choose right, but then I am forsworn;  
So will I never be: so may you miss me;  
But if you do, you'll make me wish a sin,  
That I had been forsworn. Beshrew your eyes,  
They have o'erlooked me, and divided me;  
*One half of me is yours, the other half yours,—*  
*Mine own, I would say; but if mine, then yours,*  
And so all yours.

Freud points out that in these last few lines Shakespeare has revealed his insight by allowing his heroine through this speech blunder to express openly the very thing which duty demands that she keep to herself. In real life, it is not uncommon for people thus to blurt out the thing which they want to say but concerning which, for reasons of policy, they should hold their peace. Psychologically the mechanism here involved is probably simply one of asso-

ciation of ideas. There is an old text-book dictum to the effect that any idea presented to the mind tends to express itself in word or action unless inhibited by an opposing idea.<sup>1</sup>

*Compulsive ideas and obsessions* are logically related in their underlying nature to the mechanism just discussed. The unfortunate individuals suffering from such compulsions feel themselves driven in some mysterious fashion to performances which they frequently find repugnant and embarrassing. An excellent example is poor Mr. Dick in "David Copperfield." Mr. Dick, it will be remembered, had been vainly trying for several years to complete his famous Memorial. His progress, however, was persistently hindered by the diabolical insistence with which King Charles's head kept projecting itself into the exposition. Blithely Mr. Dick would set to work, resolved to push his task to an early completion, but before he could write a single page, he would discover that the unwelcome head had managed to get itself mentioned. This unwanted persistence of an idea, though a neurotic symptom, is not uncommon in normal people.<sup>2</sup>

<sup>1</sup> "Just following the completion of the connubial celebration, Byron in an oblivious moment called the new Mrs. Byron, Miss Milbank, much to her chagrin. . . . Byron's slip of the tongue his wife never seemed to quite forget or forgive and forevermore regarded him with an apprehension which more than once caused him discomfiture and exasperation."—Cassity, John Holland, "Psychopathic Glimpses of Lord Byron," *The Psychoanalytic Review*, vol. xii, 1925, p. 409.

<sup>2</sup> Obsessive ideas reported by 200 through questionnaires were,  
Monstrous stone rolling menacingly toward one  
Knife seeming to be about to cut  
Roll of carpet rolling and unrolling



The compulsion or obsessional neuroses in general afford an interesting hunting ground for the writer, being found not infrequently in individuals whose personalities make good story material. In the fictional development of such characters it may be useful to have in mind the general scheme of the neuroses. According to Freud, these are divided into two groups, the psycho-neuroses and the actual neuroses. The psycho-neuroses include the compulsion neuroses and hysteria, while the anxiety neuroses and neurasthenia are the actual neuroses. All of these show conversion symptoms and for this reason deserve a brief mention at this point.

#### THE COMPULSION NEUROSES

In a preceding paragraph we have mentioned intellectual obsessions as found in compulsion neuroses. We should now note various impulsive obsessions or manias which may be classed under the same heading. Some of the better known of these are kleptomania, dipsomania, pyromania, suicidal and homicidal manias.<sup>1</sup> All of these are fairly familiar to the

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Recurrence of name, "Claudius"

Desire to jump in front of approaching railway trains

When going into barn alone, always looking up at rafters to see whether any one was hanging there.

—Berry, Charles Scott, "Obsessions of Normal Minds," *Journal of Abnormal Psychology*, vol. xi, 1916-17, p. 19.

<sup>1</sup> See on this subject, Stekel, Wilhelm, *Peculiarities of Behavior*, vols. i and ii. Boni & Liveright, New York, 1924. This work is valuable to the writer as a source book on cases of wandering, parapathic delirium, narcotomania, stealing, kleptomania, homo-sexuality, pyromania, gambling mania, tic, etc.



reader of newspapers, for scarcely a day passes that we do not hear of an apparently otherwise normal individual who has been discovered in the performance of some of these impulsive acts. Frequently the bewilderment of the individual when asked to explain the reason for his conduct reminds one of the naïve responses of John mentioned earlier in this chapter when the clinician was probing for the real cause behind his night fugues.

Again we may find the individual suffering from a compulsion neurosis displaying curious involuntary muscular movements. These are frequently called *tics*. The commonest of these consist in systematic movements of muscles of the face, grimaces, involuntary shrugging of the shoulders, gritting of the teeth, and the like. Dr. Samuel Johnson, as revealed to us in Boswell's picture of him, was evidently a sufferer. His insistence on touching every post that he passed,<sup>1</sup> on leaving the room by a certain number of paces,<sup>2</sup> and his almost pathological repugnance for certain streets,<sup>1</sup> mark him as neurotic.

<sup>1</sup> "He would conceive an unintelligible aversion for a particular alley, and would perform a great circuit rather than see the hateful place. He would set his heart on touching every post in the streets through which he walked. If by any chance he missed a post, he would go back a hundred yards and repair the omission."—Macaulay, Lord Thomas Babington, *Encyclopedia Britannica*, 11th ed. vol. xv, p. 464.

<sup>2</sup> "He had another peculiarity, of which none of his friends ever ventured to ask an explanation. It appeared to me some superstitious habit, which he had contracted early, and from which he had never called upon his reason to disentangle him. This was his anxious care to go out or in at a door or passage by a certain number of steps from a certain point, or at least so that either his right or his left foot (I am not certain which) should constantly make the first actual movement when he came close to the door or passage."—Life of Samuel Johnson, LL.D., by James

By some authorities *phobias* are listed in connection with the obsessional neuroses. A phobia is an abnormal fear. Some of the commoner phobias are the following:

acrophobia—fear of high places  
agoraphobia—fear of open places  
algophobia—fear of pain  
anthropophobia—fear of men or of some particular man  
astraphobia—fear of thunder  
claustrophobia—fear of inclosed places  
ereutophobia—fear of blushing  
gynophobia—fear of women or of some particular woman  
hematophobia—fear of blood  
misophobia—fear of contamination  
neophobia—fear of the new  
nyctophobia—fear of darkness  
ochlophobia—fear of crowds  
pathophobia—fear of disease  
peccatiphobia—fear of sinning  
phobophobia—fear of fear  
taphephobia—fear of being buried alive  
thanatophobia—fear of death  
theophobia—fear of God  
toxiphobia—fear of poison  
vokephobia—fear of returning home  
zoophobia—fear of insects or animals

Examples of phobias are plentiful in literature. Poe's masterly delineations of fear will occur to everyone in this connection. These fears, however, are usually fairly well motivated, whereas in the true

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Boswell, edited by George Birbeck Hill, vol. i, p. 484. Oxford, Clarendon Press, 1887.

phobia a characteristic element is the apparently irrational nature of the fear. As clear a case of phobia as any in modern literature is portrayed by Augustus Thomas in "The Witching Hour." In this play much of the action is built around the overpowering distaste of young Clay Whipple for a cat's-eye jewel. This fear is pictured by the dramatist as being hereditary. It is so strong and irrational that it leads the unfortunate youth to commit murder in his attempts to escape from the feared object.

TOM (*with scarf-pin in hand*). Excuse me. What's the matter with that scarf-pin?

CLAY. It's a cat's-eye and I don't like them, that's all—I don't like to look at them.

LEW. Let him alone, Tom.

TOM. Damn 'f'ee ain't scared of it. Ha, ha!  
(*Pushing pin in front of CLAY's face.*)

CLAY (*greatly excited*). Don't do that.

HARDMUTH (*sneering*). 'Twon't bite you, will it?

CLAY. (*Averts his face.*) Go away, I tell you.

TOM. (*Holds CLAY with left hand. Has pin in right.*) 'Twill bite him—bow—wow—wow—

CLAY. Don't, I tell you—don't.

TOM (*still holding him*). Bow—wow—wow—

LEW. Tom!

HARDMUTH (*laughing*). Let them alone.

CLAY. Go away.

TOM. Bow—wow—

(*Enter JACK*)

JACK. What's the matter here?

TOM (*pursuing CLAY*). Wow—

(CLAY, in frenzy, swings the large ivory paper-knife from table; blindly strikes TOM, who falls.)

JACK. Clay!

CLAY (*horrified*). He pushed that horrible cat's-eye right against my face.

JACK. What cat's-eye?

HARDMUTH. (*Picks up the pin which DENNING has dropped.*) Only playing with him—a scarf-pin.

LEW (*kneeling by DENNING*). He's out, Jack.<sup>1</sup>

In the play just cited the phobia is pictured as the outcome of heredity coupled with numerous suggestions from the immediate relatives which served to stamp in the fear reaction to the particular stimulus. At the end of the play Clay is cured by being induced to embrace his sweetheart while she is wearing the pin which was the source of his fright. Aside from the idea of the inheritance of such a specific fear, which is probably impossible, the general psychological theory here involved is sound. It does not, however, fit in especially well at points with the Freudian theory, which relates phobias and the compulsion neuroses in general to the effect of repressed complexes which are supposed to be transferred or displaced to some indifferent idea or action. In psychoanalytic theory the obsession is frequently spoken of as a transformed self-reproach, for some sexual act or trend or fantasy of childhood. It is looked upon as a kind of over-compensation for this repressed memory.

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<sup>1</sup> Thomas, Augustus. *The Witching Hour*. Act I, p. 53. Quotation by special permission of Author.

Closely associated with the types of adjustment just mentioned are the *anxiety neuroses*. The state is characterized by general irritability, hypersensitivity, insomnia, pavor nocturnus, anxious expectations, pessimism, scrupulosity, and sometimes so-called anxiety equivalents such as cardiac disturbances, respiratory disturbances, shaking, trembling and stammering, excess perspiration, ravenous appetite, diarrhœa, and vertigo. In Freudian theory, the anxiety neuroses are the results of inadequate sexual gratification. It should be said that other theories explain these symptoms on the basis of toxic conditions, endocrine upsets, heredity, and overwork.

An especially apt illustration of anxiety neuroses in literature and one which agrees remarkably with the Freudian theory appears in De Maupassant's "The Horla." This story, told in the form of a diary, traces the development of an obsessive fear in a man spending his vacation at his country place away from the accustomed interests of the city. On the first day he is exuberantly happy in his return to the place where his forefathers were born and died. A few days later he reports a slight fever; then that he is definitely ill. He goes away for a short visit and is greatly improved. On his return he is again struck by the strange malady. His slumbers are disturbed. He begins to have doubts as to his sanity. He finds that water disappears from the carafe on the table when no human being has been in the room. Finally he discovers that he is being haunted by a strange South American monster, the horla, which is

invisible but which makes its presence manifest in a hundred unpleasant ways. His days and nights become one feverish, terrified attempt at finding a means of escape from the horrible visitor. His fears are pictured in the following quotation:

. . . I sleep—for a long time—two or three hours—then a dream—no—a nightmare seizes me. I feel that I am lying down and that I am asleep. . . . I feel it and I know it . . . and I feel, too, that some one approaches me, looks at me, touches me, climbs on my bed, kneels on my chest, takes my neck between his hands and squeezes . . . squeezes . . . with all his might, strangling me.

I struggle madly in the grip of the frightful impotence that paralyzes us in dreams: I try to cry out—I can't; I try to turn round, to fling off this creature who is crushing and choking me—I can't do it.

And suddenly I wake up, terrified, covered with sweat. I light a candle. I am alone.

He continues thus for days struggling against his invisible enemy. Finally in desperation he sets fire to the beautiful home that he had loved so well, in the hope that the horla will perish in the flames. But at the end he knows that he has not been successful.

No. . . . No. . . . I know, I know . . . he is not dead . . . so . . . so I must kill myself now.

#### THE HYSTERICAL CHARACTERS

The hystericals we have ever with us. We all know individuals who exemplify some of the numer-



ous stigmata of this protean disorder. Etymologically the term indicates a disease peculiar to women, but modern physicians find men also exhibiting the symptoms. These symptoms may, in general, be classified as disturbances of sensation, of motor reaction, and of mental state. On the side of sensation the commonest forms of disturbance are the anæsthesias (loss of sensation) and the hyperæsthesias (extreme sensitivity). The anæsthesias take many curious forms. Cutaneous anæsthesias are common, the individual losing sensation from some particular area. The area thus afflicted may be cut, burned, stuck with pins, with complete indifference so far as the sufferer is concerned. The so-called glove and stocking anæsthesias are familiar clinical forms and are immediately significant to the physician who knows that the actual distribution of sensory nerves does not correspond to any such conventional pattern and that the loss of sensation in such a manner must be a mental rather than a strictly physical phenomenon. Visual anæsthesias resulting in the loss of certain visual sensations or the restriction of the field of vision are sometimes reported. A recent short story made use of this idea, one of the characters resorting to the hysterical device of simply not seeing an enemy. Other disturbances of sensation such as nausea, anorexia, vertigo, and the familiar globus hystericus, or lump in the throat, may be noted.

On the motor side we find a long array of hysterical paralyses, contractures, tics, rhythmic spasms, coughs, grunts, sobs, laughs, hiccoughs, nodding,

winking, blinking, and the like. Cataleptic states are frequently hysterical in origin, as well as somnambulisms,<sup>1</sup> and fugues.

For Freud the hysterical symptoms are the result of a conflict and resultant repression of sexual wishes which, while repressed, are still dynamic. The repressed energy is pictured as being converted into the various physical symptoms recorded above. This theory further presupposes that the meaning of these symptoms is made obscure by a mechanism similar to that of the dream whereby the repressed ideas are able to get outlets in a disguised form. Janet, a French psychologist who has made a special study of hysteria, advances a somewhat different theory based upon his idea of the "retraction of the field of personal consciousness," with accompanying dissociation of whole systems of ideas which are split off, so to speak, from the main personality. A dramatic and exaggerated form of such dissociation is found by some authorities to exist in the states of so-called multiple personality.<sup>2</sup>

*Neurasthenia* has been noted in a preceding paragraph as one of the so-called actual neuroses mentioned by Freud. In his theory, the neurasthenia is

<sup>1</sup> Janet in his book, *The Major Symptoms of Hysteria* (New York, The Macmillan Company, 1920), cites the sleep-walking of Lady Macbeth as an example of somnambulism.

<sup>2</sup> Several works of fiction have been based on the idea of multiple personality. Since individuals exhibiting this symptom are relatively rare in real life, the stories built around such characters are apt to seem unreal and far-fetched to the average man, and writers should employ the concept with care. Interesting illustrative cases may be found in *The Dissociation of a Personality*, by Morton Prince. Longmans, Green & Company, New York, 1920.

due to sexual excess. The principal symptoms are hyperæsthesia, paræsthesia (peculiar "subjective" sensations), insomnia and nightmare, headache, abnormal feelings of fatigue, nervous dyspepsia and constipation. It should be added that other authorities also trace these symptoms to overwork, auto-intoxication, disturbances of the glands of internal secretion, and hereditary predispositions.

#### DREAMS, WIT, AND SMUTTY STORIES, AND WOMAN-HATING

We find ourselves coming to the end of our discussion of the mechanisms of adjustment in the case of the sex instinct with a considerable stock still left on our shelves. For want of a better classification we have lumped them all together under the heading, miscellaneous, which is sufficiently broad to cover a multitude of mental sins. Of principal interest in this miscellaneous group of sex outlets, we have dreams, wit, *risqué* stories, and hatred of the opposite sex. Want of space prevents more than mere mention of the last two; wit will receive attention in a later chapter. Dreams will therefore be our final consideration.

Writers, popular and scientific, have from time immemorial made a great mystery of dreams. Modern science is gradually bringing this field of psychology under experimental observation and control, with resultant clarification. It is becoming more and more evident that dreams exhibit pretty much the same

machinery as is observed in the associations of waking life. That being true, it is understandable that many dreams may be found to reveal the individual's reaction to the barriers confronting his desires just as surely as waking conduct exhibits such adjustments.

We find again that in this field Freud has been especially active in pointing out the dream as an outlet for repressed wishes. Many psychologists do not accept in full his theory of dream symbolism, but most of them probably find themselves in sympathy with the general idea that at least some dreams are expressions of the fulfillment of a wish. Examples of such fairly obvious expression of desire in a dream are to be found in those cases where the hungry individual dreams of eating, the thirsty individual dreams of water, and the sexually abstinent individual dreams of sexual gratification.

In order to explain other dreams which do not thus clearly express a wish by their obvious content, Freud has developed his theory of distortion in dreams, condensation, displacement, representation, and secondary elaboration. For a further discussion of these devices, the reader should turn to Freud, himself.<sup>1</sup>

It is interesting to the psychologist to note the readiness with which this idea of dreams as expressions of repressed desires has found its way into

<sup>1</sup> Freud, S., *The Interpretation of Dreams*, tr. by Brill. The Macmillan Company, New York, 1913. In his *Delusion and Dream* (tr. by Helen W. Downey, Moffat, Yard & Co., New York, 1919) Freud attempts to show the application of his theories to a dream that was never dreamed, that is to a dream reported in fiction. For this purpose he selects Jensen's story, *Gradiva*.

modern literature. Two clear examples are to be found in the recent Broadway plays, "Bride of the Lamb" by William James Hurlbut, and "Rain" by Somerset Maugham and John Colton. In "Bride of the Lamb" a woman, who hates her sot of a husband and is interested in the preacher who is conducting a revival in the town, has a dream in which she is trying desperately to get to the church, but is hindered by a log which blocks her path. In her waking moments she refers to her husband as a log. Freud would probably think the symbolism here too simple for a genuine psychoanalyst to waste his time on it. From a literary point of view it is excellent, being just sufficiently obvious to the average audience.

In "Rain" the dream exhibits more finesse and requires the best efforts of an amateur psychoanalyst who happens to be one of the characters in the play. This dream is that of the puritanical missionary who in spite of his inhibitions has enough of the old Adam in him to be attracted by the carnal charms of Sadie Thompson. While he is in the clutch of conflict between his instincts and his theology he has a dream, the chief characteristic of which as he recalls it afterward is a memory of the "mountains of Nebraska." Analysis reveals that in Nebraska there are no real mountains, only gently rolling hills, round and smooth "like a woman's breasts."

#### SYMBOLISM

In the illustration just given we see some excellent examples of *symbolism*. Perhaps no concept of psy-



choanalysis has been more attacked by other schools of psychology. At the same time, perhaps no concept of psychoanalysis has a greater intrinsic appeal to the writer. A literary man is essentially interested in the expression of ideas in symbolic form and any symbols which may be found to be universal are so much grist for his mill.

Without committing ourselves to the acceptance of the psychoanalytic interpretation, we may note some of the symbols frequently used. Freud in his book, *The Interpretation of Dreams*, cites numerous examples in which he contends that a repressed eroticism finds expression in the disguised form of a symbolic dream. He thinks that a large number of dreams "which are concerned with passing through narrow spaces or with staying in the water are based upon fancies about the embryonic life, about the sojourn in the mother's womb, and about the act of birth." He says that dreams of "saving" are parturition dreams for women. The dream of "falling" he finds to be sexually significant in the case of women. Fire is frequently symbolic of passion. He claims that emperor and empress (king and queen) in most cases really represent the parents of the dreamer. Sticks, tree trunks, umbrellas, knives, daggers, pikes, little cases, boxes, caskets are found to be symbolic representations of sexual organs. The dream of walking through a row of rooms is supposed to be a brothel or a harem dream. Freud says that staircases, ladders, and flights of stairs, or climb-



ing on these either upward or downward, are symbolic representations of sexual acts.

The symbolism of dreams is of a piece with the general tendency of the human mind to express tabooed ideas in a concealed form. As Brill has expressed it, "certain symbols are ethnic; they resemble certain things to such an extent that you find them wherever there is an unconscious mentation." These symbols are discovered in folklore, legends and fairy tales, and in the rituals of primitive religions. In many cases the symbolism is found to be sexual just as in the case of the dream. Students declare, indeed, that primitive religions all show examples of the same tendency to the phallic worship. "In every Hindu temple even today," says Brill,<sup>1</sup> "the altar is made up of the '*yoni lingam*' which is only a union of the male and female genitals on a pedestal surrounded by a snake which euphemistically is a symbol of eternity. Those students who have delved

<sup>1</sup> Brill, A. A., *Fundamental Conceptions of Psychoanalysis*, p. 65. New York, Harcourt, Brace & Company, 1921.

In Chapter VIII Brill discusses types of dreams. While not necessarily accepting his analysis, we may note the following as given by him: 1. The dream of being naked. He thinks this is an exhibition dream. 2. The dream of death of a relative. He thinks that this goes back to childhood memory and represents a repressed wish. 3. The dream of the death of the father. This dream he relates to the Oedipus theory. 4. The dream of being subject to a severe examination. He thinks that this usually occurs on the eve of embarking on a new project. 5. The dream which is obviously consolation for loss or lack. 6. The prophetic dream. This is frequently an expression of a resolution or is a wish fulfillment. 7. The dream of missing a train. This is a consolation dream. 8. The dream of flying. He says this expresses a wish to be superior. 9. The falling dream. He finds this to be symbolic of moral delinquency. 10. The dream of identification with animals. He thinks this dream expresses a wish for the experience depicted in the dream.

deeply into the subject have pointed out, however, that the snake is really a symbol of the male genitals." It is also noted that the cross was originally a phallic symbol, as was the fish, a symbol used by early Christians.

Folklore is of course replete with illustrations of symbolism many of which are so thinly veiled as to be understood readily by everybody. In the story of Adam and Eve the taking of the forbidden fruit is clearly a euphemism. So likewise the Greek myth of Pandora and the troubles that were released in the world by her curiosity about the forbidden box. Abraham<sup>1</sup> in his *Dreams and Myths* has tried to show the extent to which the Freudian mechanisms are observable in sagas and legends, and among others has analyzed the stories of Prometheus, Moses, and Samson. Rank<sup>1</sup> and Riklin<sup>1</sup> have also made studies in this field.

#### MECHANISMS OF ADJUSTMENT IN THE CASE OF OTHER INSTINCTS

In this and the preceding chapter we have shown how the concept of tendency, barrier, and adjustment may be applied in the case of the mastery instinct

<sup>1</sup> Abraham, Karl, *Dreams and Myths*. Nervous and Mental Disease Monographs Series, No. 15. New York, 1913.

See also Rank, O., *Myth of the Birth of the Hero*, Nervous and Mental Disease Monograph Series, No. 18. New York.

Riklin, Franz, "Wishfulfillment and Symbolism in Fairy Tales" (tr. by White), *Psychoanalytic Review*, vol. 1, no. 1, November, 1913, p. 94.

One of the best general discussions of symbolism is to be found in *Mental Adjustments*, by F. L. Wells, chap. iii. New York, D. Appleton & Company, 1917.

and the sex instinct. It should be noted that this concept is applicable to every instinct, although the resultant mechanisms are not equally important and interesting from the point of view of the writer. Limitations of space forbid our elaboration of this device in connection with all of the major human urges, and we shall conclude our presentation with just one more example, choosing for our purpose the fighting instinct.

In a measure the fighting reaction is a subsidiary or associate of all other instincts. It is ordinarily manifest when any of the major human drives is blocked. It may be an interference with the desire for mastery or superiority; it may be an interference with the sex desire; it may be an interference with the desire to care for children. It may involve any other of the mainsprings of human conduct. The common cause of fighting is always an interference.

The barriers to the full expression of the fighting instinct are not especially different from those previously noted in connection with mastery and sex. Perhaps the fear of legal punishment is somewhat more potent here and considerations of policy are frequently strong. A very effective barrier to the full expression of the instinct is, of course, fear of the opponent.

Normally the object of the fighting instinct is the injury or destruction of the person or thing stimulating the reaction. Commonly this injury or destruction is achieved by direct physical attack. Under

modern social conditions, this attack may take other forms, including verbal onslaughts and the like.

*Substitute attacks* are especially numerous and varied in the case of the fighting instinct. Under this heading of substitute attacks should be listed all angry attempts at injury which are socially recognized as "unfair," "unsportsmanlike," "hitting below the belt"; malingering, belittling, sarcasm, biting wit, cursing, "accidental injury," irascible play, gang warfare, and injury from ambush are among the most frequent of these socially unacceptable reactions.

Hall<sup>1</sup> has pointed out that the fighting instinct shows the same tendencies to alternative and sublimated forms as does the sex desire. One type of adjustment which is worthy of our present interest is the imaginary attack on the enemy. An especially well-developed case of this mode of adjustment is to be found in Tolstoi's *Childhood, Boyhood, Youth*.<sup>2</sup> In a chapter on "Fancies" the author tells of the ideas that come to him while locked up because of an attack on his tutor. He is convinced that this tutor is his mortal enemy and hates him to such a degree that he would gladly kill him.

Then I fancy myself already at liberty, outside our house. I enter the hussars, and go to the war. Enemies bear down upon me from all sides, I wave my

<sup>1</sup> Hall, G. S., "Anger as a Primary Emotion and the Application of Freudian Mechanisms to Its Phenomena," *Journal of Abnormal Psychology*, 1915, vol. x, pp. 81-87.

"The Freudian Methods Applied to Anger." *American Journal of Psychology*, 1915, vol. xxvi, pp. 438-443.

<sup>2</sup> Tolstoi, L. *Childhood, Boyhood, Youth*. Tr. by Hapgood. New York, N. Y. Crowell and Co., 1888. Quotation by permission.

sword, and kill one; a second wave, I slay another, and a third. Finally, exhausted by wounds and fatigue, I fall to the earth, and shout "Victory!" . . . The Emperor comes up to me and says, "I thank you. I will do anything you ask of me." I salute respectfully, and leaning on my sword, I say, "I am happy, great Emperor, to have been able to shed my blood for my fatherland, and I wish to die for it; but if you will be so gracious, then permit me to beg one thing of you—permit me to annihilate my enemy, the foreigner, St. Jerome. I want to annihilate my enemy, St. Jerome." I halt threateningly before St. Jerome, and say to him, "You have caused my misfortune. On your knees!" But suddenly the thought occurs to me that the real St. Jerome may enter at any moment with the rods; and again I see myself, not a general serving his country, but a very pitiful, weeping creature.

The *imaginary reaction* in anger may take the form of pictured punishment of the opponent, imaginary invective, cutting remarks, threats, sarcasm, and imaginary exaltation of self. Occasionally imaginary injury to self is reported. In the chapter from Tolstoi just cited, there occurs a delightful example of this. Here the boy in his solitary confinement pictures St. Jerome's amazement upon opening the garret door and finding the lifeless body of the hero. This turns out to be merely a trick for punishing the enemy since the boy further pictures his father's great anger and punishment of the tutor for his torture of the lad.



"He was a fine boy," says papa, with tears in his eyes. "Yes," says St. Jerome, "but a great scamp." "You should respect the dead," says papa. "You were the cause of his death; you frightened him; he could not endure the humiliation which you were preparing for him. Away from here, you villain!"

And St. Jerome falls on his knees and weeps and sues for pardon.

The *contrary reaction* is either turning the other cheek or being over-friendly or over-polite to the enemy. It is commonly accompanied by a feeling of superiority, the individual congratulating himself on his commendable self-restraint. Closely allied is the *indifference reaction*, which is usually accompanied by the consoling thought that the enemy is not worthy of notice.

There are numerous *sublimations* of the fighting instinct. James once wrote a famous essay on "The Moral Equivalents of War," urging the wider adoption of these substitute reactions. Hall, quoted above, gives as interesting examples, cases of people who saw wood, play the piano, or indulge in physical exercise. He mentions one irascible individual who carried a wooden peg in his pocket to bite on when angered. This is a substitute reaction rather than a sublimation. Other substitute reactions are solitary "cussing," self-injury for spite (including spite suicide), destructiveness, "taking it out" on the dog or the cat or some helpless individual. Richardson<sup>1</sup>

<sup>1</sup>Richardson, R. F., *The Psychology and Pedagogy of Anger*. Baltimore, Warwick & York, 1918.



in a recent work has analyzed these reactions in considerable detail.

#### INTROVERSION AND EXTROVERSION

One other concept belongs in our discussion of mechanisms of adjustment. If we consider the reactions of individuals to the barriers with which they are confronted, we note that there appear two general types. One group of individuals responds objectively—that is, the reaction is directed at the barrier. We may speak of these as the *extroverts*. On the other hand, we have noted numerous ways of acting in which the individual appears to obtain satisfaction by turning inward to his own mental images. These individuals we may speak of as the *introverts*. There are, it should be said, no absolute types in nature—that is, there do not exist hard and fast lines by which one group may be set off from another. The terms just given should be understood as merely generally descriptive. Every individual shows both introvert and extrovert reactions; in some individuals the balance swings to one or the other of these extremes.

The state of complete introversion results in a curious type of mental disease. The abnormal introvert withdraws from the world into his own rich kingdom of thought and becomes “inaccessible.” Some of these cases in institutions fail to perform even the very simplest functions for themselves. They seem stupid, withdrawn. Yet from the frag-

ments of their conversation, the glimmer of ideas which they occasionally express, we may infer that their real mental life is rich and varied.

The less pronounced cases of introversion are marked principally by the persistent tendency to avoid rough contact with reality. The introvert hides his emotions. He is egocentric. His inner life may be exceedingly rich, but his companions are usually but dimly aware of this.

The extrovert, on the other hand, is prone to flow immediately into action on the slightest provocation. He meets life eagerly. He is social and sociable. As far as thought is concerned, he is likely to be superficial. He frequently is a great bluffer. He may be a good salesman, a good actor, a great orator. He may become a great popular hero, the mob fancy being caught by the dramatic quality of his behavior. Hinkle cites Roosevelt as an example of the extrovert and maintains that Wilson was a typical introvert.<sup>1</sup>

Attempts have been made to develop psychological tests of introversion and extroversion. One of the best known of these tests is derived from the association method of Jung. The technique involves the presentation of words to the individual, who is rated according to the time and the nature of his responses. Egocentric responses characterize the introvert. Increased reaction time, hesitancy, unusual, affected, and nonsensical reactions are also said to in-

<sup>1</sup> Hinkle, Beatrice, "A Study of Psychological Types." *Psychoanalytic Review*, April, 1922, vol. ix, no. 2, pp. 107-197.

dicating the repressions of the introvert type. Measurements of the "community of ideas" indicate that the introvert tends to be more individual in his reactions, less like the group. Allport<sup>1</sup> says that a low community index has been found to have a high degree of correlation with the degree of introversion as determined by ratings.

Freyd prepared a set of questions designed to show introvert or extrovert tendencies of the individual.<sup>2</sup> This list has been tested by Heidbreder.<sup>3</sup> These investigators conclude that the following are important introvert traits:

#### INTROVERT TRAITS (Partial List)

1. Limits acquaintances to a select few.
2. Feels hurt readily. Sensitive.
3. Suspicious of motives of others.
4. Worries over possible misfortunes.
5. Indulges in self pity when things go wrong.
6. Gets rattled easily; loses his head in excitement or moments of stress.
7. Keeps in the background on social occasions; avoids leadership of social affairs.
8. Is critical of others.
9. Prefers to work alone.
10. Has ups and downs in mood without apparent cause.
11. Is extremely careful about his dress.
12. Blushes frequently; is self-conscious.
13. Pays serious attention to rumors.
14. Expresses himself better in writing than in speech.
15. Resents discipline and orders.

<sup>1</sup> Allport, Floyd H., *Social Psychology*. Boston, Houghton Mifflin Co. 1924. See also Jung, C. G., *Psychological Types*, tr. by Baynes. New York, Harcourt, Brace & Co., 1924.

<sup>2</sup> Freyd, Max, "Introverts and Extroverts," *Psychological Review*, vol. xxxiii, pp. 74-87, 1924.

<sup>3</sup> Heidbreder, E., "Measuring Introversion and Extroversion." *Journal of Abnormal and Social Psychology*, 1926, vol. xxi, pp. 120-134. The list of traits given is a part of a longer list from Heidbreder.

16. Is a radical.
17. Introspects.
18. Motivated by praise.
19. Daydreams.
20. Prefers reading about a thing to experiencing it.

## CHAPTER SIX

### HOW LITERARY EFFECTS ARE PRODUCED

A MINER in a snowbound cabin in farthest Alaska lies in a dirty bunk, weary and cold and hungry, and forgets the monotony of the relentless world about him in the adventurous pages of *Treasure Island*.

A wistful girl of sixteen swings in a hammock, dreamy-eyed, half-drugged by the throbbing romance of the latest sheik story.

A little college professor enters the final examination mark on the last examination paper and then with a curious eagerness relaxes himself to the thrills of a shilling shocker.

A tired President, worn by the duties of his great office, props himself up in bed and, lost in the pages of a detective story, reads until the yellow lights outside the White House are turning gray with the morning.

How can words do these things? How is it that a handful of symbols on a page of white paper can bring tears of wrath or fear, can arouse curiosity or surprise, can summon up throbs of emotion or delicious thrills of excitement, can incite to tremendous heights of enthusiasm or—perchance—lull to blissful slumber?

What is the secret of the effect? How can the stumbling beginner capture that secret and harness it, that its potency may work in his lines and para-

graphs and pages, and through them in the lives of those who read?

#### HOW POE CREATED HIS EFFECTS

Poe once wrote an essay, purporting to show *his* method of composition and to reveal the psychological devices by which he produced his remarkable effects. For purposes of illustration he selected "The Raven", and his aim, as he expressed it, was to show that "no one point in its composition is referable either to accident or to intuition; that the work proceeded, step by step, to its completion with the precision and rigid consequence of a mathematical problem."<sup>1</sup>

It was Poe's theory that the psychological effect of a poem or a story should not be a matter of haphazard or chance, but should be the subject of careful pre-determination by the writer. In the case of "The Raven," therefore, his first consideration was that the poem be short enough to be read at one sitting in order to produce the unity of impression which he felt to be imperative.

He next concerned himself with the nature of the impression or effect to be produced. He wanted his appeal to be universal and he recalled to mind his repeatedly expressed theory—namely, that the "pleasure which is at once the most intense, the most elevating, and the most pure is found in the contemplation of the beautiful." He concluded to take beauty as his province, believing it to be wellnigh

<sup>1</sup> Poe, Edgar Allan. *The Philosophy of Composition*.



universal in its appeal. He considered the *tone* most suitable to the highest manifestations of beauty and decided to adopt one of sadness, arguing that beauty in its supreme development produces a feeling of melancholy.

A keynote or central pivot for the poem was his next interest. He reviewed the usual means of producing artistic effects and concluded that of all others the refrain was most to his point. He determined to heighten the effect of the refrain by the introduction of minor variations. He further decided that, since this refrain must be brief, a single word repeated under different situations would admirably satisfy his requirements. In selecting this single word he desired to secure something sonorous and emphatic which led him to seek for a word employing the long *o*, the most sonorous vowel, in connection with *r* the most producible consonant. He cast about for a word embodying these and also suggestive of the melancholy beauty which he wished to portray. He soon hit upon the famous "nevermore."

Having determined that he would use this refrain, he met a difficulty. In the mouth of a human being *nevermore* might soon become monotonous or silly. He therefore felt it advisable to make use of some nonreasoning creature capable of speech. First he thought of employing a parrot, but a second and better idea, that of the raven, happily presented itself.

A melancholy tone having been selected, he asked himself what constituted the most melancholy topic possible. His answer was death, the death of a beau-

tiful woman—"the most poetic topic in the world." To heighten the melancholy effect he fittingly decided that the background of his poem should be the sorrow of the bereaved lover who mourned the loss of this beautiful creature, poetically named Lenore.

The combination of these two ideas—of the lover's lament for his dead mistress and the raven's inexorable "Nevermore"—led logically to the next problem, the necessity of working the interaction of these two up to a climax. He established as that climax the point at which a query to the bird should produce the reply, "Nevermore," in such a way as to involve the utmost conceivable sorrow and despair. That point in the poem is reached in the following stanza:

"Prophet!" said I, "thing of evil!—prophet still if bird  
or devil!

By that heaven that bends above us—by that God we  
both adore—

Tell this soul with sorrow laden if, within the distant  
Aidenn,

It shall clasp a sainted maiden whom the angels name  
Lenore—

Clasp a rare and radiant maiden whom the angels name  
Lenore."

Quoth the Raven, "Nevermore."

This stanza Poe informs us was the first one composed. He thus illustrates his theory that for the maximum of effect a work of art should have its beginning—at its end.

His point of greatest emotional tone determined,

his care was to lead up to this point, beginning with stanzas somewhat light in tone and gradually intensifying the effect. This approach he calculated as nicely as an engineer establishing a gradient. He had also to devise the logical accessories of his plot—that is, the mode of bringing the lover and raven together, and the general setting of the poem, which he wished to present a contrast between the night tempestuous without and the studious quiet within. He had also to dress his ideas in a musical yet dignified rhythm. In connection with the poetic arrangement he points out that his first constructed stanza, designed to represent the climax point of the poem, settled the rhythm, the meter, and the stanza length for the whole composition. He declares that in the interest of his proposed effect, even if later he had been able to construct more vigorous stanzas, he would purposely have enfeebled them that he might not interfere with the climacteric effect.

With the stanza quoted above he might have ended the story, since it represents the completion of the narrative side of his composition. He felt, however, that such a conclusion would leave a hardness or nakedness which repelled his artistic eye. He felt the necessity for more complexity, for a certain suggestiveness of meaning. He therefore added two concluding stanzas whose general undercurrent appears in the lines—

“Take thy beak from out my heart, and take thy form  
from off my door!”

Quoth the Raven, “Nevermore!”

The last two stanzas thus serve to change what was up to that point a simple narrative into a composition possessing a satisfying moral tone. The Raven, as Poe intended, becomes to the reader symbolic of *mournful and never-ending remembrance*.

And the Raven, never flitting, still is sitting, still is sitting,  
On the pallid bust of Pallas just above my chamber door;

And his eyes have all the seeming of a demon's that is dreaming,

And the lamp-light o'er him streaming throws his shadow on the floor:

And my soul from out that shadow that lies floating on the floor

Shall be lifted—nevermore!

#### ANGLES OF APPROACH IN ANALYZING THE EFFECT

We have here been at considerable pains to present in detail Poe's analysis of his technique for producing an effect, both for the light that it throws on his theory of the psychology of the effect and the aid that it may give us in a further analysis of the human machinery involved in responding to literary products. A little study will show that Poe has considered three aspects of the effect as follows:

1. The effect as dependent upon the *subject matter*. (Beauty, death, sorrow, and so on.)
2. The effect as conditioned by the *treatment*. (Poetic form used, length of composition, and so on.)

3. The effect as conditioned by the *reader*. (His emotional nature, his artistic preferences, and so on.)

There may be some overlapping of these categories, but they have the merit of enabling us to split our study of the effect into more easily manipulated units. At the same time they are sufficiently inclusive. The remainder of this chapter and all of the next will be devoted to an exposition of those facts of modern scientific psychology which give us greater insight into these three aspects of our central theme.

#### THE EFFECT AS DEPENDENT UPON CONTENT

Reading is essentially a process in which printed symbols serve as stimuli to arouse in the mind of the reader a succession of associations. Some symbols, because of the frequency or recency or vividness with which they have been experienced in certain connections, are capable of calling up ideas which are exciting, interesting, pleasing, forceful. Others arouse drab, monotonous, displeasing associations. The skillful writer is one who has become a good judge of the psychological effect and who knows how to select the right words and phrases and to put them together in such a manner as to produce the desired result.

Of course this mastery of effect cannot be acquired by the perusal of the results of laboratory studies. Such studies may, however, set the writer to observ-

ing the psychological laws which govern his craft, and this is our justification for dealing as we do in the following pages with some rather dry and academic excursions into this fascinating field.

#### THE FEELING-TONE OF SYLLABLES

Before we can run we must walk; before we take up the study of the effect of words and phrases and sentences, we must stop for a moment with investigations of the feeling-tone of syllables. Everyone knows that some combinations of sounds are more pleasing than others. We have just seen how Poe employed a knowledge of this fact in his selection of a refrain for "The Raven." Two scientists have made a study of this same problem. Jones<sup>1</sup> in one experiment tried to measure the pleasantness or unpleasantness of different sounds combined in nonsense forms. He prepared fifty syllables, composed of two consonants with a vowel between. His object was to secure material which would be as nearly meaningless as possible, thus giving the basic feeling-tone of the sounds, free from ordinary associations. The prepared syllables were presented in pairs to a large number of judges, who were to decide in each case which member of the pair was the more pleasing. The results are shown in Table I, where the syllables are classified into three groups. Thus Nep was found to be far more acceptable than Gak, Lon was preferred to Kaz, and so on through the list.

<sup>1</sup> Jones, E. S. "The Effect of Letters and Syllables in Publicity," *Journal of Applied Psychology*, 1922, vol. vi, pp. 198-204.



TABLE I

## THE FEELING-TONE OF SYLLABLES\*

<i>Most pleasant</i>	<i>Moderately pleasant</i>	<i>Least pleasant</i>
Nep	Dav	Bod
Lon	Lof	Seg
Dur	Teg	Sew
Paz	Keb	Kuv
Des	Bep	Tas
Zef	Gof	Kaz
Tor	Sef	Ruv
Dos	Teb	Sab
Reg	Lug	Rav
Ber	Ret	Geb
Tur	Mul	Vab
Tul	Pev	Vud
Ket	Sud	Ged
Tov	Zud	Gur
	Reb	Gak
	Dap	
	Kop	
	Bov	
	Sof	
	Kut	

\* Jones.

Jones concluded that in general the forms involving *t*, *d*, *l*, *r* tend to be pleasant, while *g*, *v*, and, to a lesser degree, *k* and *s*, tend to be found in the least pleasant group. He also thought from his observations that the feeling-tone of combinations, such as Nep-Lon, Kut-Gak, and so on, might be predicted from a knowledge of that of the parts, and that the

first member of the combination was the more important.

Roblee and Washburn<sup>1</sup> performed a somewhat similar experiment. Their nonsense syllables were composed of initial vowels and final consonants. They employed a rating scale for pleasantness, consisting of seven steps. The affective value of each sound was calculated by averaging the scores for all combinations in which it appeared. The investigators found that the least agreeable vowel was *u* (as in *mud*), with *oi* second and *aw* third. The most agreeable vowel was *a* (as in *father*), followed by *e* (as in *get*). The most disagreeable final consonants were *g*, *k*, and *sh*. The most pleasing were *l* and *m*. It was found that the vowels *i* (as in *write*) and *a* (as in *hat*) and the consonants *s* and *f* were neutral. These results agree fairly well with those reported by Jones.

In explaining the pleasant or unpleasant feeling-tone of sounds one theory finds the determining element to be associations with taste sensations. Thus the sound of *g* (as in *gut*), which involves the activity of the back of the tongue, is by this theory assumed to be unpleasant, since the back of the tongue is active in the tasting of bitter substances. By this theory the sound of *g* would, in the development of language, have been used frequently in the expression of unpleasant ideas, and hence today we should expect to find it in many words of unpleasant tone.

<sup>1</sup> Roblee, L., and Washburn, M. F. "The Affective Value of Articulate Sounds." *American Journal of Psychology*. 1912, vol. xxiii, pp. 579-584.

A second theory holds that sounds such as those of *g*, *k*, and *q*, which bring into play the larger muscles of the throat, involve the same movements that are used in expressions of sudden emotion, such as despair, and thus come to have an unpleasant feeling-tone through associations.

The findings of these two investigations are perhaps of more immediate concern to the practical manufacturer, interested in securing an euphonious name for his product, or the proud parent seeking a choice and unique name for a recent offspring. At the same time, the writer, especially the poet, will also find here considerable food for thought.

#### WORD FAMILIES

From syllables we turn to words. Every word carries with it not only its obvious connotation, but also vague, shadowy associations, arising from its common use, the company that it has kept, the family to which it belongs. Hotchkiss<sup>1</sup> points out, for example, that one of the worst families of sounds is the *sn* group, which includes, among others, *sneer*, *sniff*, *snip*, *snake*, *sneak*, *snare*, *snore*, *snob*, *snub*, *snide*, *snooping*, *snitching*, and *snoot*. Almost as bad is the *gr* family, which offers *growl*, *greed*, *grab*, *grate*, *grasp*, *grip*, *grim*, *gross*, *groan*, *grudge*, *graft*, *grub*, *greasy*, *grind*, and *grime*. Unpleasant endings are to be discovered in the—*um* family, such as *glum*,

<sup>1</sup> Hotchkiss, G. B., *Advertising Copy*, p. 232. New York, Harper & Brothers, 1924.

*grum, scum, slum, gum, rum, numb, dumb, crumb, bum, snum.* The—*ump* family also has bad associations, as witness, *bump, dump, hump, lump, rump, slump, chump, stump, frump, gump.* Hardly less suggestive are the—*imps*, with such examples as *shrimp, skimp, crimp, limp, primp, and pimp.*

Spencer<sup>1</sup> in his essay on style discusses the use of such imitative words as *splash, bang, whiz, roar*, which convey something of their meaning through their sound. In theory these words ought to be especially effective because of their obvious mnemonic possibilities. In this connection Hotchkiss has pointed out that a great number of imitative words, such as *sputter, spout, spit, squirt, slam, sniff, pout, bawl, howl, thunder*, give an expressive picture of the idea to be conveyed. He remarks that an intelligent foreigner, informed that in English the words *glare, glow, glimmer, glitter, gleam*, and *gloom* indicate gradations of light, should have no difficulty in deciding how they differ. *Glow* is softer than *glare*, *gleam* is less hard than *glitter*, *glitter* and *glimmer* more fitful than *gleam*, and *gloom* suggests the absence of light.

#### IMAGERY AND THE EFFECT

It is difficult to determine the basis for all of these effects, but in general explanation must be in terms of the associations aroused. This is clear when we

<sup>1</sup> Spencer, H., *The Philosophy of Style, in Essays, Moral, Political and Aesthetic*, New York, D. Appleton & Company, 1882.

consider meaningful words. Here we discover that *concrete* words are effective and pleasing largely because they possess a great number of close associations. Our lives, especially our early lives, are spent in contact with actual objects—books, tables, chairs, dolls, mamma, papa, horses, cows, engines, and so forth. By frequency, and to a lesser degree by vividness and recency of experience, these concrete terms attain a potency which the abstract can seldom equal. Justice and mercy, hope and charity, peace and good will, service and wisdom—these will never be as sharply real to most of us as the acid taste of vinegar, the pungent odor of wood smoke, the pain of a burn, the icy cold of a winter wind. Writing that is crammed full of such vivid words is much more likely to move us than writing that rattles emptily with abstractions.

Laboratory investigations have attempted to determine to what extent writing is superior which thus succeeds in conveying to mind clear-cut imagery of the kind just mentioned. Downey<sup>1</sup> in her study of responses to poetry has shown that vividness of imagery does contribute to the affective reaction. Other investigators have found that vivid imagery aids in perception as long as the associations called up are *relevant*. Peers,<sup>2</sup> for example, tested the reactions of boys to various literary fragments, in some cases using illustrations in which the imagery was

<sup>1</sup> Downey, June E. "The Imaginal Reaction to Poetry," University of Wyoming, Department of Psychology, Bulletin No. 2, 1911.

<sup>2</sup> Peers, E. A. "Imagery in Imaginative Literature." *Journal of Experimental Pedagogy*, 1914, vol. xi, pp. 174-187.

relevant and intrinsic, and in other cases employing materials suggesting imagery not directly related to the thought. Thus the following:

"Time is like a fashionable host  
That slightly shakes his parting guest by the hand,  
And with his arms outstretch'd, as he would fly,  
Grasps in the comer."

—SHAKESPEARE, "Troilus and Cressida."

In this example the imagery is definitely bound up with the thought. The effect may be compared with that obtained in the following:

"He is secure and now can never mourn  
A heart grown cold, a head grown grey in vain;  
Nor, when the spirit's self has ceased to burn  
With sparkless ashes load an unlamented urn."

—SHELLEY, "Adonais."

Peers found that in excerpts of the first type, where the meaning was contained in the imagery, the boys with strong imagery were most successful. In the second type, where the images were not essential to the understanding, it was found that the individuals receiving the strongest imagery were sometimes actually balked by those images and failed to grasp the underlying thought. Peers concluded that there was no reason to suppose that a piece of literature containing many word pictures would necessarily be easier for a student than a piece entirely devoid of such pictures. Apparently it depends in part upon the imaginative tendencies of the individual.

This study, however, has to do with the *under-*



*standing* of the passage. Had Peers measured the *emotional* reaction and the *interest* aroused, it is likely that writing containing vivid imagery would have been found to be more effective. A considerable portion of the effect which words have upon us is *via* the emotionally colored associations called up. Contrast, for example, the responses to the following word pairs:

<i>Interesting Pairs</i>		<i>Less Interesting Pairs</i>	
Blood	Finger prints	Blood	Bone
Lips	Kiss	Lips	Teeth
Baby	Danger	Baby	Adult
Kill	Enemy	Kill	Fly
Jewels	Steal	Jewels	Polish

There will be discovered here a practical suggestion for making writing interesting. The author who crowds his pages with vignettes of sharply realistic situations, who makes us hear the hiss of the bullet, see the spatter of blood on the floor, who calls up pictures of a languorous Southern moon and the soft perfume of a woman's lips, or who weaves into his narrative the confiding prattle of a toddling child—who gives us words that make us *see* and *hear* and *smell* and *taste* and *feel* the force of these emotionally tinged scenes—will always have an audience.

#### THE ESCAPE THEORY. WISHFULFILLMENT

In earlier chapters we have spoken of human behavior as motivated by a number of instinctive desires

which are frequently blocked, with resultant substitute adjustments. This concept is frequently employed to explain the appeal which fiction has for the average reader. It is usually known as the Escape Theory of Literature and has a very important place in our general analysis of the effect.

Cosmo Hamilton in his "The Diary of a Dramatist" has most aptly summarized this theory. He makes one of his characters say:

"Give them what they want. Treat the public as a child. You can make no mistake when you metaphorically gather them round your knees, turn the light down, and say, 'Once upon a time.' Fashions change and tastes differ, but in the hearts of the great theatre-going public there is a longing for romance, for idealism, for the reward of virtue and the punishment of vice. Dull lives, sir, require a little joy, and every man and woman, however small or great, comes to the theatre to sit on a magic carpet and be wafted to the place which is only seen in dreams."<sup>1</sup>

In psychological language this device by which we derive satisfaction from the picturization of emotional and instinctive stimulation of the kind we crave is sometimes known as *wishfulfillment*. The student of literature will discover this motif underlying most fiction. It is almost an axiom that an artistic creation to have a universal appeal must show the realization of a universal desire.

<sup>1</sup> Hamilton, Cosmo. "The Diary of a Dramatist." *Saturday Evening Post*, May 8, 1926.

It is not enough, however, that the desire be universal. It must also be somewhat generally frustrated. The desire for air is universal among humans, but is so seldom hindered that it requires the genius of Poe to make it subject matter for a story. So with many other common wants.

The phenomenon of wishfulfillment in its most obvious form is to be discovered in fairy tales, myths, and legends. Riklin<sup>1</sup> has made a study of such primitive literature and has pointed out the naïve fashion in which countless devices for compensating for human weakness and wants make their appearance in the form of magic manifestations. Seven-league boots allow Hop-o'-my-thumb to overcome the difficulties arising from his physical inferiority. The poor peasant finds a magic stone by which he becomes a prince and marries the king's daughter. There are magic drinks, belts, gloves, rings, mantles, wands, lamps, coins, pipes, mirrors, boxes, glasses, caskets, tables, chairs, handkerchiefs, swords, boats, horses, music boxes, pots, bottles—dozens of objects of special virtue, which endow the lucky possessor with superhuman power, speed, wisdom, or untold wealth, by which he is able to win the object of his love, defeat his dastardly enemies, satisfy his physical wants, secure respect and power and fame, aid his parents or his children or his friends, revive and restore his failing body, and, finally, assure himself a happy transition to the Elysian Fields beyond.

<sup>1</sup> Riklin, Franz. "Wishfulfillment and Symbolism in Fairy Tales," *Psychoanalytic Review*, vol. i, no. 1, November, 1913.

This type of literature is childish and savage only in the choice of methods for the satisfaction of desires. The wishes so conveniently ministered to by magic means are the same ones which supply the point of departure in adult and sophisticated fiction. In the fairy tale, the hero, sore beset, finds the potent sword and forthwith tastefully carves his enemies into convenient lengths. In the modern version, to be purchased from the nearest newsstand, the sword is replaced by some patentable idea, some happy discovery, some legal technicality, some clever twist, and the struggle is thus pleasantly consummated in favor of the handsome chap who, as everyone knows, is only the reader in disguise.

We pause here to formulate a kind of rule or theory which may be derived from the foregoing discussion. It is: Other things being equal, *the maximum effect on the reader will be produced by writing which pictures the satisfaction of desires that in the reader's own life are extremely strong and extremely repressed.*

#### OTHER WAYS OF INTERESTING THE READER

In our list of ways for interesting the reader this device, which may be called the *Appeal-to-their-instincts Method*, deserves front rank. We may appropriately continue our discussion of the mechanism of the effect by tabulating six other techniques which writers frequently employ.<sup>1</sup>

<sup>1</sup> In this discussion of interest devices the author has borrowed freely from several sources. Among them is Overstreet, H. A., *Influencing*

2. *The Man-bites-dog Method.*

Elephants are fairly familiar to all of us. So are spats. But the headline, "Spats on an Elephant," will catch the interest of nine readers out of ten. Why? Because this novel combination of commonplace things serves as a stimulus to our tendency to investigate. This tendency is sometimes called the instinct of curiosity. Probably it is better thought of as instinctive in its origin, but much modified by ex-

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*Human Behavior.* The People's Institute Publishing Company, New York, 1925. Overstreet lists as interest devices the following:

1. The kinetic technique.
2. The chase technique.
3. The homeogenic technique.
4. The yes-response technique.
5. The putting-it-up-to-you technique.
6. The challenge technique.
7. The familiar in the unfamiliar technique.

Woolf, James Davis, in *Writing Advertising* (The Ronald Press Company, New York, 1926), quotes from Phillips the seven factors of interestingness, as follows:

1. The vital.
2. The unusual.
3. Uncertainty.
4. The similar.
5. The antagonistic.
6. The animate.
7. The concrete.

Hollingworth, H. A., in *Advertising and Selling* (D. Appleton & Company, New York, 1913), gives the following:

1. Novelty.
2. Color.
3. Illustrations.
4. Suggested activity.
5. The comic.
6. Feeling tone.
7. Instinctive appeals.
8. Appeals to habits and ideals.

perience. Whatever its derivation, humans do show this mechanism.

This method of arousing interest is one of the easiest to employ and is relatively certain of results. Stripped to its simplest elements it may be studied in the following examples, where word pairs have been used to show how the manipulation of associations may produce widely differing effects:

<i>Interesting Pairs</i>		<i>Less Interesting Pairs</i>	
Rain	Fishworms	Rain	Water
Frogs	Whiskers	Frogs	Toads
Flexible	Bone	Flexible	Wire
Necktie	Noose	Necktie	Collar
Prince	Pauper	Prince	King
Elephant	Tonsils	Elephant	Trunk
Boston	Mars	Boston	New York
Rubber	Oyster	Rubber	Doll

The student of the psychology of interest will do well to spend some time in a careful analysis of the effects of these two sets of words. He should note especially the part played by the novel combination of familiar elements.

### 3. *The Why-is-this-thus Method.*

Closely akin psychologically is the method by which interest is obtained through suggesting a problem or a puzzle to the reader. What is Wrong With This Picture? Why Did She Kill the Man She Loved? What Makes This Ship Go Without Sails or Steam? How Can People Get Soap from



Trees? Why Do Some People Have White Specks on Their Finger Nails? Why Do the Bushmen Put Rings in Their Ears?

4. *The I-bet-you-can't-do-this Method.*

In an earlier chapter we have spoken of the mechanisms of rivalry and mastery. Any challenge which serves as a stimulus to these will arouse and hold interest. The clever reader will discover that this device has been employed twice in the last ten lines.

5. *The This-is-the-inside-story Method.*

By reason of heredity and training man has an interest in the unknown, the mysterious, the hidden—especially if it has some familiar and puzzling details. Add to this the tickling of his desire for superiority by the suggestion that he is being admitted to “inside stuff,” and you have a combination of motives strong enough to give sustained interest. Books revealing the “secrets” of Esoteric Philosophy—whatever that is—of personality, of hypnotism, and the like, have a wide sale, largely because of this desire to gain superiority by special information.

6. *The What-this-means-to-you Method.*

This method involves the direct appeal to the desires of the individual. It differs only from the first method given in this list in the directness of its appeal.

### 7. *The Turning-flapjacks-in-the-window Method.*

Through nature and by training people are interested in activity of any kind. Purely mechanical activity, especially if of a very simple nature, soon loses its initial appeal, but more complex and more human acts are always of interest. People like to watch the changing shapes in leaping flames and in floating clouds. They like to watch window demonstrators, sidewalk artists, ditch-diggers, firemen, parades. In stories they like action, change, emotional ups and downs.

#### THE PSYCHOLOGY OF THE HUMOROUS EFFECT

We now approach a melancholy topic, one which we would prefer to omit regretfully because of the limitations of space. Any discussion of the psychology of literary effects, however, would be gapingly incomplete without a word on the mechanism of wit and humor, and we must essay a brief discussion, trusting that this tiny addition to the large body of mournful literature already existing on the subject can work no permanent injury to any trusting reader.

In order to make people laugh it is not necessary to know *why* they laugh, any more than it is necessary to understand the theory of the internal-combustion engine in order to run an automobile into a telephone pole. Most practicing humorists probably have their naïve theories of how to tickle an audience, but from a scientific point of view these theories may be dismissed with a shrug and a compassionate smile;

anyone heavy-minded enough to work out a truly comprehensive theory of humor would be too serious ever to think of putting it to work, and if he did no one would laugh *with* him, but all of the critics would laugh *at* him. Plenty of savants have tried their hands at the solution of this complex problem of human laughter, but it is to be observed that their learned efforts are quietly gathering dust in obscure corners of the library, while Mark Twain and Bill Nye and Artemus Ward are still in demand. Since the rest of this chapter is to be devoted largely to quotations from these serious writers, perhaps the less said on this head the better.

A first point to establish is that there are many varieties of laughter and no single theory can account for all of them. There is the inscrutable early laughter of the infant, which, since the child certainly cannot appreciate how truly comic its adult audience really is, and would be too well bred to laugh if it did, we must ascribe to innate reflex responses to the condition of euphoria. There is the laughter of the struggling schoolboy whose ribs are being explored by a relentless persecutor—a laugh that puzzles the philosophers sorely, for *why* are we so outrageously affected by the digital approaches of others, and yet unable to tickle ourselves when we want to experience a good hearty laugh? There is the laughter that is merely a language mechanism, including the at-last-proud-beauty laugh, the I-am-awfully-nervous-and-embarrassed laugh, the this-is-certainly-a-clever-story-I-am-telling-you laugh, and

many more. There is the large laugh of the country youth who laughs with the muffler cut out and adenoids showing when teacher sits on the bent pin. There is the purring, demi-tasse laugh of the society matron when the opponent drops the wrong card and is set. There is the boyish guffaw, and the girlish giggle, and the raucous snort, and the <sup>impure in mind</sup> prurient <sup>desire</sup> snicker, and the well-fed chuckle, and the merry chortle, and a hundred more varieties and subvarieties, evidence of the completeness with which this mechanism has been adopted by "the only animal that laughs."

The situations which arouse laughter are correspondingly numerous. Psychologists have made gallant attempts at enumeration of these situations, but the task is rather hopeless. The following list, modified from those given by Kline<sup>1</sup> and by Hall and Allin<sup>2</sup> is representative:

#### THINGS AND SITUATIONS THAT MAY BE LAUGHABLE

Animals, *eg.*, the donkey.

Man, *eg.*, Falstaff.

Actions, *eg.*, falling, jumping.

Clothes, *eg.*; clowns, foreigners, etc.

Customs, *eg.*, foreign.

Tickling.

The forbidden, the secret, the sexual.

<sup>1</sup> Kline, L. W., "The Psychology of Humor," *American Journal of Psychology*, 1907, vol. xviii, pp. 421-441.

<sup>2</sup> Hall, G. S., and Allin, Arthur, "The Psychology of Tickling, Laughing and the Comic." *American Journal of Psychology*, 1897, vol. ix, pp. 2-41.

Words, language, thoughts, including:

Slips of the tongue

Misspellings, mispronunciations

Naïve statements

Inversions

Pretentious use of big words

Active thought humor. Wit. Caricature.

#### THINGS AND SITUATIONS USUALLY NOT LAUGHABLE

The macroscopic things.

Rhythmical changes, space, time, heavens.

Things inimical to life and freedom.

Those things, mostly social, which have become  
habitual, regular, necessary to comfort.

#### THEORIES OF LAUGHTER

When we come to theories of laughter we find the supply greater than the demand, so that no one need be in want. A serviceable and fairly comprehensible one is that ascribed to Kant, who has frequently been quoted to the effect that "Laughter is an affection arising from the sudden transformation of a strained expectation into nothing." This is a sober thought, one well calculated to make a timorous laugher pause before giving vent to his unrestrained chortles. Bawden<sup>1</sup> incorporates Kant's general idea into what is called the summation-irradiation theory of humor, better named the safety-valve theory, which con-

<sup>1</sup> Bawden, H. H., "The Comic as Illustrating the Summation-irradiation Theory of Pleasure-pain." *Psychological Review*, 1910, vol. xvii, p. 336.



siders the comic as showing stages of tension, sudden discharge, followed by recovery of poise and sense of relief. By this theory laughing is something like sneezing; first the preliminary expectancy or state of incipient innervation, then the explosion.

To illustrate this theory the following example may be borrowed from Bawden. A boy was kept after school and required by the teacher to write a hundred-word theme about "Jack and the Kitty." After much mental anguish he wrote as follows:

Jack went to the door ——

(For psychological purposes we must here stop a moment for introspection.) The properly submissive reader is now supposed to be in a state of strained expectation, to use Kant's phrase. He wants to know the rest of the thrilling story. To relieve the suspense we continue with the lad's masterpiece, which read as follows:

—— and called Kitty, Kitty, Kitty, Kitty (90 times).

If that be humor, the reader is cordially invited to make the most of it. In the active practical application of this theory the important thing would seem to be skill in straining expectation almost to the cracking point and then deftly providing an unexpected and inconsequential dénouement. Artemus Ward is said to have been a master at this trick. He would begin talking about something with the greatest apparent seriousness and consequentiality. "I once knew a man who didn't have a hair on his head," he



would say. Expectation aroused. Then the dénouement: "But he could play the trombone better than anyone in town." Will Rogers frequently employs this device with great effect. A rule for its use may be stated as follows:

Technique No. 1. *Arouse expectation of something important, serious, interesting. Then release tension by inconsequential conclusion.*<sup>1</sup>

Freud<sup>2</sup> in his carefully-worked-out theory of wit attempts to show that the same mechanisms of condensation, displacement, faulty thinking, absurdity, indirect expression, and representation through opposite, prevail here as in dreams, and he seeks to trace a direct connection with the unconscious mind. He says that wit begins as play, but becomes related in a secondary manner to the tendencies from which nothing that is formed in psychic life can long escape, becoming exhibitionistic, aggressive, cynical, skeptical, obscene. He speaks of this as "tendency wit" and thinks that the pleasure of such wit results from the gratification of a tendency which would otherwise remain unfulfilled. Tendency wit serves a purpose. It is a means of escape. "It enables us to make love or express hate in situations in which open, frank expression is denied."

Another frequently quoted theory of laughter is

<sup>1</sup>Occasionally the above prescription is faithfully followed, but the expected laugh is not forthcoming. This indicates that the tension has not been sufficiently relieved. The proper thing to do in this case is to tell the story over again, laughing merrily at the proper place.

<sup>2</sup>Freud, S., *Wit and Its Relation to the Unconscious*, tr. by Brill New York, Moffat, Yard & Co., 1916.

that of Hobbes, who says (*Leviathan*, part 6), "Laughter is nothing else but sudden glory arising from some sudden conception of some eminency in ourselves by comparison with the infirmities of others or with our own formerly." "The passion of laughter proceedeth from a sudden conception of some ability in himself that laugheth. Men laugh at the infirmities of others, by comparison wherewith their own abilities are set off and illustrated."

Compare this with Bain, who says:<sup>1</sup> "The occasion of the ludicrous is the degradation of some person or interest possessing dignity in circumstances that excite no other strong emotion. The element of the genuine comic is furnished by those dignities that, from some circumstance or other, do not command serious homage."

This would seem to be the tendency wit of Freud under a different form, and stressing the single instinct, the desire for mastery. It is certain that much of our laughter is of this type and many of the cleverest humorists gain their effect by deftly catering to the universal desire to be superior.

Technique No. 2. *Laughter may be induced by giving an individual a sudden sense of his own superiority or the inferiority of enemies, or by affording a release of sex repression.*

#### OTHER TECHNIQUES OF HUMOR

There are many other techniques for the production of the humorous effect. Most of them are

<sup>1</sup> Bain, A. *The Emotions and the Will*, 2d ed., p. 248.

related, directly or indirectly, to the devices just illustrated. We list here a few of them. No attempt has been made at ultimate classification and analysis.

Technique No. 3. *Humor through Economy (Freud)*

Freud says that wit originates from an economy in the expenditure of inhibition, the comic from an economy in the expenditure of thought, and humor from an economy in the expenditure of feeling. All represent a striving for euphoria. For example when it is said of an old man that "He is now in his anecdotage," the saving effected by making one word do the work of two is found pleasurable. Under the heading of harmless or abstract wit Freud classifies many common types, including puns, the play on words, witty nonsense, amusing ambiguities, sophisticated faulty thinking, and so on.

Technique No. 4. *Humor through Unusual Combination of Familiar Elements.*

In another connection we have noted that unusual combinations of familiar things are usually interesting. They may be amusing as well, if they call attention to some basic unlikeness or incongruity. Experiment has shown that simple word pairs may be sufficient to call to mind these unusual combinations of ideas. The following, for example, are word pairs which have been found amusing by some people:

Mosquito .....	Bashful
Angular .....	Egg
Eel .....	Sandpaper
Moonlight .....	Cats
Boosie .....	Susie
St. Peter .....	Boils

Technique No. 5. *Humor through Variation of a Familiar, Stereotyped Pattern.*

Much of the laughter of the theatre and of daily life is aroused by a new twist to a familiar pattern of ideas. Some of these hardy "gag lines" are:

"Who do you think you are, ————?"

eg. "Who do you think you are, the Prince of Wales?"

"What do you think this is, a ————?"

eg. "What do you think this is, a stable?"

"What are you trying to do, ————?"

eg. "What are you trying to do, flirt with death?"

"He is so ———— he has to ————."

eg. "He is so low down he has to reach up to touch bottom."

"She may be ———— but her ———— is ————."

eg. "She may be cross-eyed, but her ears don't flop."

"He was as busy as ————."

eg. "As busy as a one-armed paper-hanger."

"If it was ———— you wouldn't even ————."

eg. "If it was raining soup you wouldn't even have a spoon."

CONCLUSION

Goethe long ago said that there is no more significant index of a man's character than the things that

he finds laughable. One man's prize jest is another's abhorrence. For some a smashing, well-played pun is the height of humor. Contributors to college comics and the alleged humorous magazines appear to hold that a jest to be worth its salt must involve some delightfully devilish reference to sex or inebriety. Other individuals, in the haw-haw stage of evolution, prefer the merry tale that visualizes the fat man being slapped in the face with a link of sausage and crowned with a custard pie. Some like the naïve, some like the burlesque, some like the nonsensical.

In his delineation of character the writer must make his creations "laugh the part." At the same time he must keep in mind the humor preferences of his audience. As a practical exercise in the study of character it will be found useful to watch and record the reactions of individuals to different laughter-provoking situations.

## CHAPTER SEVEN

### THE PSYCHOLOGY OF THE EFFECT (CONTINUED)

Great is Diana of the Ephesians  
Diana of the Ephesians is great

Blue were her eyes  
Her eyes were blue

Break, break, break, on thy cold grey stones,  
O sea!  
On thy cold grey stones, O Sea,  
Break, break, break.

THE mere mechanics of the presentation of ideas profoundly influences the effect. Even the simple matter of the order in which ideas are received by the reader may be of importance. The right words in the proper sequence will convey thought with telegraphic speed. The same thought, hampered and blocked by a barrage of pompous verbosity, obscured by the "tumid and tumultuary" structure of the sentence, half buried in turgid and unfamiliar phraseology, derelict in a complicated welter of ambiguous and wandering indirections, must push its uncharted course through the mazes of the bewildered reader's associations, leaving both reader and idea in a dense fog.

Spencer in his famous essay on style was one of



the first to point out the importance in literary craftsmanship of a proper appreciation of the psychology of *attention*. This term is usually employed to name the stimulus-response adjustment which involves certain observable behavior, such as focusing the eyes, turning the head, and the like, accompanied by a mental state in which the object of attention is clearly conscious. Various figures have been used to describe this mental condition of heightened awareness. Sometimes consciousness is thought of as a target, with the bull's-eye representing the point of greatest clearness, the outer circumference standing for objects which are just about to become clear, or which have just been attended to and are now on the way to oblivion. Other writers have compared the act of attention to the focusing of a camera, with the central object in the foreground clear and distinct, surrounded by a less sharp fringe or margin. Still others have noted the important fact that attention seems to come in waves or pulses and have used expressions conveying this concept.

As helpful as any is the comparison of attention to a highly mobile searchlight which is shifted from instant to instant, so that its rays rapidly fall upon many objects. While any one object is illuminated, there is a surrounding halo, a twilight zone of lesser brightness, containing those objects just dismissed from the central vantage-point and those waiting objects which are soon to have their moment of importance.

This figure of the searchlight emphasizes one of

the most interesting and important aspects of attention, its constant shifting. The mental searchlight is never still for long. It is as if each idea and object had a special string tied to the searchlight and by a tug could attract the full rays for an instant. Thus, for example, an automobile honks and its raucous sound temporarily pulls the attention of everyone in the neighborhood. No sooner does any particular idea attain the full flood-light than its potency tends to wane. Other ideas of importance come breaking in, hauling vigorously at the searchlight, so that it flits constantly from point to point.

Not all of the shifting of attention is caused by change in the environment. Due perhaps to cyclic changes in metabolism or to fluctuations of the blood supply, attention seems to pulse and wane, like a searchlight with a variable current supply. Some psychologists have asserted that these wave crests of greater attention come every two or three seconds. Listen to some faint sound, say the ticking of a watch at a distance, and you will note such fluctuations.

The practical implication of all this is that every sentence or paragraph or page that is to hold attention, must be neatly designed to pop out a new object of interest just as the searchlight is wavering and about to swing away. It is impossible to fix attention on a black speck on a blank wall for half an hour. There is no change, no new element, to recall the truant mind. Easy reading keeps step with the pulses of attention. It is a safe rule to introduce some new and interest-demanding aspect every two or three

seconds. Stevenson has this in mind when he tells us to be "infinitely various; to interest, to disappoint, to surprise, and yet seem to gratify; to be ever changing, as it were, the stitch, and yet still to give the effect of ingenious neatness."<sup>1</sup>

#### THE SPAN OF ATTENTION IS LIMITED

Attention not only shifts constantly, but at any one instant the number of objects directly illuminated by the searchlight is limited. We cannot attend to everything at once. Ordinarily we find one object in focus and two or three more in the fringe. If the number of objects demanding attention increases beyond five or six, distraction is likely to occur.

What does this mean to the writer? Hollingworth<sup>2</sup> has illustrated the significance of this law of the limitation of attention by comparing the effects of two sentences as follows:

##### *Attention Easy*

The proper length for a comfortable sentence is felt to be about sixteen words.

##### *Attention Difficult*

By a careful experimentally conducted investigation of the laws of attention, psychologists have been led to conclude that the most favorable sentence length for the average reader is

<sup>1</sup> Stevenson, R. L., *Style in Literature*.

<sup>2</sup> Hollingworth, H. L., *Advertising and Selling*. New York, D. Appleton and Co., 1913.

under ordinary conditions, approximately sixteen single words.

It will be seen that the first sentence can be broken up readily into four phrase units. This makes attention easy. In the other example, confronted by the long, unwieldy sequence of ideas, robbed of any easy resting-point, attention wavers and perhaps is lost.

Spencer<sup>1</sup> in his essay elaborates this concept of the correlation between excellence of composition and ease of attention. He stresses as of especial importance the *principle of economy*. If language be considered as a machine for conveying ideas, whatever force is absorbed by the machine must be deducted from the result. Manual signs convey thought with a minimum of loss, as when the pointing hand indicates the right path. In written language economy of attention is to be secured through the nice choice of words, the arrangement of these words in an effective sequence, and the use of figures which facilitate perception.

#### ATTENTION SPAN AND THE CHOICE OF WORDS

How may the choice of words facilitate attention by decreasing fatigue? Clearly, short and familiar expressions are easier to grasp than long and unusual ones. Spencer argues that Anglo-Saxon words are, for this reason, to be preferred. The vocabulary of

<sup>1</sup> Spencer, Herbert, *The Philosophy of Style, in Essays, Moral, Political and Aesthetic*. New York, D. Appleton & Company, 1882.

the average child, he points out, is almost wholly Saxon. As, for example:

I have, *not* I possess.

I wish, *not* I desire.

I think, *not* I reflect.

I play, *not* I am amused.

This is nice, *not* This is agreeable.

Most of us, when addressing an audience of children, keep in mind their limited attention span as well as their limited vocabulary, and refrain from loading our message with big words and long clauses and sentences. In most writing for grown-ups there is a general disregard of this caution, although, as we shall see in a later paragraph, the intelligence of the average adult is on a par with that of the normal thirteen- or fourteen-year-old child.

Theoretically, economy of attention is also to be secured by designing the sentence in such a fashion that each "mental unit" is cut to the right length, like cordwood cut to fit the stove. This principle has already been noted in the illustration quoted from Hollingworth, and may be amplified by the following examples:

#### THE ORIGINAL

Fourscore / and seven years ago / our fathers /  
brought forth / on this continent / a new nation /  
conceived in liberty / and dedicated / to the propo-  
sition / that all men / are created / equal /.



## RECONSTRUCTED FORM

Practically exactly fourscore / and seven / historically significant years ago / our dearly beloved forefathers / brought laboriously forth / on this recently discovered continent / a vigorous new nation / conceived in universal liberty / and humbly dedicated / to the supreme proposition / that all living men / are uniformly created / in every respect equal/.

The reconstructed form shows the labored effect that results when the conveniently short units of attention and perception are replaced by lengthened ones. The reader will also discover that with the change in the length of the phrase units it has been necessary to change the beat, or the emphasis points, so that the effect is far less satisfying. In this connection it is of interest to note the theory of Wallin<sup>1</sup> and others that the pleasantness of rhythm in poetry and prose arises from the coincidence of wave crests of attention with the beat of the composition. While very much in the realm of theory, this idea is suggestive.

<sup>1</sup> Wallin, J. E. W., "Researches on the Rhythm of Speech." Studies from the Yale Psychological Laboratory, 1901, vol. ix, pp. 1-142. It is unfortunate that limitations of space forbid more than this passing reference to the extremely interesting researches which psychologists have made in this field of perception of rhythm. In addition to the early work of Scripture and Wallin the student may profitably consult the following:

Brown, Warner, "Time in English Verse Rhythm." Archives of Psychology, No. 10. Columbia University, 1908.

Patterson, W. M., *The Rhythm of Prose*. New York, Columbia University Press, 1916.



## WRITING THAT MAKES PERCEPTION HARD

PERCEPTION is the technical term for the process by which we get meaning from symbols. It is closely linked with attention, and much that has been said in the preceding paragraphs on that subject applies here. In general, to make perception easy is to economize attention.

Reading is a highly developed form of perceptual activity. Watch some one reading a newspaper or a book and marvel at the agility with which he sweeps his eye over groups of crooked little lines and swiftly absorbs the thought. If you will observe closely you will discover that in reading his eyes move in jumps along the line from left to right, making about three stops in the ordinary line. Experiments show that his eye actually sees only in the instants of fixation, so that reading is not the smooth, continuous process that we ordinarily suppose, but a series of brief snapshots, or momentary illuminations, during which the meaning of three or four adjacent words is grasped.

Since reading thus consists in rapidly grasping the meaning of perception units strung one after another, it is clear that perception will be facilitated if each unit is in an accustomed sequence, is not too big for convenient assimilation, and is either clear in itself or readily apprehended through its close relation to other perception units.

Buffon<sup>1</sup> in his talk on style gives a good figure to

<sup>1</sup> Buffon, M. De. An Address delivered before the French Academy upon the day of his reception. Quoted by Cooper, Lane, in *Theories of Style*. New York, The Macmillan Company, 1912.

illustrate this concept. In speaking of long sentences, rich in involved parentheses, he points out that it is really the memory that is chiefly taxed. "This kind of sentence furnishes the reader with mere half-phrases, which he is then called upon to collect carefully and store up in his memory, as though they were the pieces of a torn letter, afterward to be completed and made sense of by the other halves to which they respectively belong."

Any dangling construction which leaves a part of the framework of the sentence suspended in mid-air while some unimportant element is being worried into place is thus difficult of perception. Says Buffon, "It consists in—it is desirable to give rule and example together, wherever it is possible—breaking up one phrase in order to glue in another." A fine example is given by Lewes<sup>1</sup> in *The Laws of Style*. He says:

#### DIFFICULT FORM

To construct a sentence with many loosely and not obviously dependent clauses, each clause containing an important meaning or a concrete image the vivacity of which, like a boulder in a shallow stream, disturbs the equable current of thought,—and in such a case the more beautiful the image the greater the obstacle, so that the laws of simplicity and economy are violated by it,—while each clause really requires for its interpretation a proposition that is, however, kept suspended till the close,—is a defect.

<sup>1</sup> Lewes, George Henry, *The Laws of Style*.

## RECAST FORM OF PASSAGE

It is a defect when a sentence is constructed with many loosely and not obviously dependent clauses, each of which requires for its interpretation a proposition that is kept suspended till the close; and this defect is exaggerated when each clause contains an important meaning, or a concrete image which, like a boulder in a shallow stream, disturbs the equable current of thought: the more beautiful the image, the greater its violation of the laws of simplicity and economy.

De Quincy<sup>1</sup> in his essay on Style also notes the "downright physical exhaustion" produced by what is technically called the periodic style of writing. He argues that it is the suspense, the holding-on of the mind, which wears out the reader's attention. A sentence, he says, by way of example, "begins with a series of *ifs*; perhaps a dozen lines are occupied with expanding the conditions under which something is affirmed or denied: here you cannot dismiss and have done with the ideas as you go along, for as yet all is hypothetical; all is suspended in air. The conditions are not fully to be understood until you are acquainted with the dependency; you must give a separate attention to each clause of this complex hypothesis, and yet, having done *that* by a painful effort, you have done nothing at all; for you must exercise a reacting attention through the corresponding latter section, in order to follow out its relations to all parts of the hypothesis which sustains it. . . . The con-

<sup>1</sup> De Quincy, Thomas, "Style," *Blackwood's Magazine*, 1840-1841.

tinued repetition of so Atlantean an effort soon overwhelms your patience. . . .”

#### PERCEPTION AND WORD ORDER

In every sentence, says Spencer, there is some one order of words more effective than any other. In general that order is most readily perceived which “presents the elements of the proposition in the succession in which they may be most readily put together.” Spencer declares, for example, that it is better to place the adjective before the substantive, rather than after it. Contrast the English usage, “A black horse,” with the French “*un cheval noir*.” He argues that if the word horse is first presented, it calls up a variety of images of white, gray, and black horses, with brown perhaps predominating. Clearly, most of these images are largely superfluous and may be a downright hindrance to the advancement of the thought. If the classifying adjective is placed first, no such wasted effort occurs, since the black indicates an abstract quality and as such arouses no definite images.

It may be doubted whether, in the case of a single phrase such as that just given, the retarding effect is of very serious importance, since most certainly the reader runs ahead in his perception and skillfully grasps whole phrases as units. In order to throw some experimental light on this theory the following lists of phrases were tested to determine their reading time, with the results indicated.

## NOUN-ADJECTIVE SEQUENCE

*(Average reading time for this list, 48.9 seconds)*

days happy, shadows dark, fields pleasant, home charming, gesture angry, stream placid, seats comfortable, life gay, smell musty, picture pretty, cars speedy, hatred bitter, night eventful, men restless, fire cozy, manner troubled, odor fragrant, machines busy, streets slippery, weights heavy, surface polished, taste delightful, sound loud, whisper low, border white, vow broken, criticism sharp, message swift, view lovely, service costly, corner quiet, story funny, chair vacant, pages torn, steed dashing, silver gleaming, faces happy, flowers withered, garment mended, manner calm, surface painted, object missing, figure pathetic, sheep lost, drawing crude, trail vague, reception kindly, experience vivid, story vivid, witness reluctant, suggestion helpful, scene stormy, dwelling lonely, food wholesome, designs correct, dress new, walk private, decision hasty, devices useless, move foolish, act innocent, choice happy, ways better, gold yellow, method easy.

## ADJECTIVE-NOUN SEQUENCE

*(Average reading time for this list, 39.9 seconds)*

happy days, dark shadows, pleasant fields, charming home, angry gesture, placid stream, comfortable seats, gay life, musty smell, pretty picture, speedy cars, bitter hatred, eventful night, restless men, cozy fire, troubled manner, fragrant odor, busy machines,



slippery streets, heavy weights, polished surface, delightful taste, loud sound, low whisper, white border, broken vow, sharp criticism, swift message, lovely view, costly service, quiet corner, funny story, vacant chair, torn pages, dashing steed, gleaming silver, happy faces, withered flowers, mended garment, calm manner, painted surface, missing object, pathetic figure, lost sheep, crude drawing, vague trail, kindly reception, vivid experience, vivid story, reluctant witness, helpful suggestion, stormy scene, lonely dwelling, wholesome food, correct designs, new dress, private walk, hasty decision, useless device, foolish move, innocent act, happy choice, better ways, yellow gold, easy method.

From this we may conclude that the word order in the single phrase is of some importance and it seems likely that within longer units sequence may be of still greater significance. In this connection Spencer offers the stock example:

Great is Diana of the Ephesians  
*as contrasted with*  
 Diana of the Ephesians is great

He feels that when the first arrangement is used the word "great" serves to arouse vague associations, or preperceptions of an impressive nature, so that "the imagination is prepared to clothe with high attributes whatever follows." The result is that when the rest of the sentence is taken in, all of the appropriate imagery is applied directly in the formation of a forceful picture, "the mind being led directly, and



without error, to the intended impression." When the reverse order is used, the conception has to be revised, with resultant loss of energy.

From this the general proposition may be developed that speed of perception will result from placing early in the phrase, clause, sentence, or paragraph the important explanatory ideas or predicate constructions, and qualifying terms. Psychologically this rule is sound, since by such a sequence the reader is forced to note the restrictions before he has had time to perceive incorrectly the thought or subject described. Additional illustrative cases from Spencer and others may aid in grasping this principle.

*Hard-to-perceive  
Sequence*

His mighty heart burst  
then.

The French idea of liberty is—the right of every man to be master of the rest; in practice, at least, if not in theory.

How immense would be the stimulus to progress were the honour now given to wealth and title given exclusively to high achievements and intrinsic worth.

*Easy-to-perceive  
Sequence*

Then burst his mighty  
heart.

Whatever it may be in theory, it is clear that in practice the French idea of liberty is—the right of every man to be master of the rest.

Were the honour now given to wealth and title given exclusively to high achievement and intrinsic worth, how immense would be the stimulus to progress.

In conclusion, to quote Spencer once more, "Other things being equal, no concrete image should be suggested until the materials out of which it is to be made have been presented."

#### OTHER WAYS TO AID PERCEPTION

The familiar order also aids perception. Through long practice we have what James called a foreboding of the coming grammatical scheme. If we see "no more," we expect a balancing "than" to be lurking somewhere forward. "However" presupposes a "still," "yet," or "nevertheless"; a noun implies a verb, and an adjective needs a noun; a verb is likely to be found in company with an adverb. Knowing this, we are set in advance and such preperception makes decidedly for economy of effort.

When for some reason the construction of the sentence leads the reader to anticipate a certain sequence and his expectations are not fulfilled, the result is analagous to the experience of confidently stepping out to a nonexistent stair-case. The following examples will illustrate this point. Note the difficulty encountered in the hard-to-perceive sequence on first reading.

#### *Hard-to-perceive Sequence*

That the average man,  
quick to sense the dif-  
ference between right  
and wrong, and equal-

#### *Sentence Rewritten*

The average man, quick  
to sense the difference  
between right and  
wrong, and equally

ly quick to confuse ignorance with evil intent, will never endure.

quick to confuse ignorance with evil intent, will never endure that.

He can no more hope to accomplish the purpose which he has set before himself all these weary years, having lost his position and his influential friends.

Having lost his position and his influential friends, he can no longer hope to accomplish the purpose which he has set before himself all these weary years.

To return to the first point (the careful reader who has followed our chain of reasoning thus far will understand this), the Livingstone expedition found to be impossible.

The careful reader who has followed our chain of reasoning thus far will understand that the Livingstone expedition found it impossible to return to the first point.

#### ON WRECKING THE ILLUSION

Hoffman<sup>1</sup> in his interesting and practical discussion of the "Fundamentals of Fiction Writing" has emphasized the great importance in fiction of *maintaining the illusion*. By illusion he means the mental attitude or set of the reader. In any situation human

<sup>1</sup>Hoffman, Arthur Sullivant. *Fundamentals of Fiction Writing*. Indianapolis, Bobbs-Merrill Company, 1922. Quotation by special permission of publisher.

beings tend to perceive about what they are set to perceive. In a lonely churchyard at midnight one expects uncanny experiences and is likely to see any innocent white post as a supernatural visitor. Witnessing a comedy in the theater, one is prepared to laugh and even a very weak jest may produce a hearty outburst. In a similar way the reader makes for each story, be it romance, adventure, comedy, or tragedy, the appropriate adjustment, and much of his enjoyment depends upon the uninterrupted maintenance of that favorable perception.

Good writing aims at inducing and preserving a desired mood. Shifting of the mental gears is accomplished with a minimum of jolt and jar, and attention is carried smoothly along from paragraph to paragraph and page to page without effort and without distraction. Careless writing, on the other hand, no sooner establishes a favorable set than it breaks the illusion by some clumsy slip or unexpected gesture. The reader becomes suddenly and disagreeably conscious of the creaking of the machine. His smooth progress is interrupted, the rapport between him and the story-teller is lost.

Hoffman gives a careful analysis of the literary lapses which produce this unfortunate result. The following is a condensed list taken from this discussion:

#### FOES OF LITERARY ILLUSION

1. Distraction due to some small slip or discrepancy—*eg.*, Historical inaccuracy. Discrepancy in character's age. Mistake in costume or setting.

2. Distraction due to unusual word or expression—*eg.*, Cat-silent.
3. Distraction due to unfamiliar historical or fictional references.
4. Distraction due to unusual proper names—*eg.*, Hencastle.
5. Distraction due to similarity of names of different characters and to use of different names for the same character.
6. Distraction due to use of dialect, especially if poorly done.
7. Distraction due to obtrusion of the author.
8. Distraction due to unusual mannerism or style or to stereotyped phrase patterns.
9. Typographical errors.

## ANÆSTHETIC WRITING

When the reader goes to sleep over the book or article it is safe to wager that the writer has failed to employ one or all of the foregoing methods of keeping interest alive. Such sleep-inducing productions are ordinarily unintentional on the part of the wordsmith and he deserves no particular credit for his accomplishment. To write in such a way as to invite somnolence with the minimum of struggle and agony to the victim is no mean task and we may profitably pause to note a few of the more efficient methods of lulling your reader to a healthy, normal slumber.

First, be monotonous. Sleep, as every amateur psychologist knows, may be induced by a steady, un-



varied succession of stimuli. Let your words drip with the comforting regularity of summer rain on an attic roof. Avoid variety. Keep your sentences of uniform length, and strive for the dangling construction which will gradually wear down your reader's resistance by fatiguing his attention and his memory.

Second, be abstract. This is especially important if the subject is a scientific one, for the readers of such material are apt to be more determined and alert, and if one is to overcome their resistance it is necessary to avoid anything that might arouse vivid or emotionalized images. There has been considerable complaint of late that a few writers on scientific subjects, such as Wells, Dorsey, Durant, and others have violated the rules of the Scientific Authors' League by making their stuff interesting, thus lowering the high standard of anæsthetic effectiveness which the loyal membership has for years been trying to maintain. Not only do these popular writers produce less high grade slumber, but they attract many people who do not want to go to sleep. This means that these authors have collected considerable sums in royalties, while the legitimate members of the League have not enjoyed such returns. The situation is a serious one and no doubt something ought to be done about it.

Third, avoid keeping the reader in suspense. Tell him at once what it is all about, so that he will know and will not have to read farther. This makes it easier for him to go to sleep with a clear conscience, knowing that he will not miss anything.



Fourth, use many words, especially of the larger sizes. This is good practice for the writer and serves excellently to confuse the unwary reader. It is well to cultivate the power of saying the same thing, preferably an unimportant thing, several times in different language. This is useful not only from the point of view of economy of ideas—you will not have to think up so many per page—but it also serves to avoid arousing the reader by the introduction of new and interest-demanding situations.

Fifth, be as involved and unclear as possible. Long, rambling sentences have helped many a weary reader to pass a comfortable evening snoozing before the fire. Frequently after a page or two of such, skillfully done, the most hardened and eager of students will give up without a struggle.

#### THE EFFECT AS CONDITIONED BY THE READER

We have seen that the effect of a literary production depends in part upon its content, in part upon the mechanics of presentation. We must not fail to add that the total effect is also conditioned by the receiving facilities of the reader.

A few lofty souls, exponents of "art for art's sake," may here affect indifference. In only a fraction of writing, however, is such a detached attitude possible. For the rest, the writer, high or low, must keep a close eye on the great, vague public. What will *they* say? How will *they* feel? How much will *they* understand?

What the writer and the publisher want from the psychologist, of course, is a better picture of the *audience*. As individuals our concept of the thoughts and feelings of the great mass of humanity is likely to be narrow and is sure to be biased by our beliefs and prejudices. It occasionally happens that our point of view happily approximates that of the average man and then our work has wide appeal. Unfortunately, such success is rare. Our writing would profit if we could learn to visualize clearly the characteristic wants, desires, beliefs, and mental limitations of our public.

A helpful approach to this problem is through the study of the results of scientific investigations in the field of group characteristics. Already there is here developing a respectable body of facts having to do with age, sex, occupational and race differences. Are men more intelligent than women? The scientist has made mental measurements and says they are not. How do negroes differ from whites in mental equipment? How do native-born compare with immigrants? What group differences may we expect in curiosity? In emotion? In imagination? These and many more questions are concerning the social psychologist and the writer may well be at some pains to keep in touch with the findings in the field.<sup>1</sup>

A second approach is to consider the reader as a part of a "public" grouped around some medium of communication, such as a specific newspaper or maga-

<sup>1</sup> Limitations of space prevent a full development of these topics here. A good discussion will be found in *Applied Psychology*, by A. T. Poffenberger. New York, D. Appleton & Company, 1927.

zine. It may be inferred that if we find such a given publication marked by certain distinguishing characteristics, those characteristics will be mirrored by its readers. Kitson<sup>1</sup> has elaborated this idea in his study of differences between the *Chicago Evening Post* and the *Chicago American* and between the *Century* and *American* magazines. He tabulated the frequency with which words containing two, three, four and five syllables appeared in each of these publications. It was found that the number of words of more than two syllables was greater in the *Post* than in the *American* by 70 per cent. The *Century Magazine* likewise surpassed the *American* in this respect, though not to the same extent. In a similar manner Kitson measured the length of sentences, finding a greater number of long sentences in the *Post* than in the *American* and in the *Century Magazine* as compared with the *American Magazine*.

Kitson is careful not to argue that these data show anything conclusive concerning the mental caliber of the readers of these publications, but he thinks that in the long run we may expect the readers of longer words and sentences to be "more enlightened." He admits that the evidence is fragmentary and thinks that it should be supplemented by studies showing proportion of space devoted to various topics, such as Sports, Education, Science, Fiction, and so on. In general, he feels that if we may demonstrate differences between mediums, we may assume a corre-

<sup>1</sup> Kitson, H. D., *The Mind of the Buyer*. New York, The Macmillan Company, 1921. P. 59, ff.

sponding difference in the publics to which they appeal.

#### A THIRD APPROACH. THE STORY OF K

Still a third method by which the writer may get a better concept of the psychology of the reader is through the study of individuals known to be average in their reactions. Of course much preliminary investigation is necessary to determine this average, and scientific tests must be available in order to measure the individual. Such studies of average tendencies and individual variations are now being made in the psychological laboratories and their results are worthy of careful study. In order to show the possibilities of this approach we shall devote considerable space to an intriguing case of average intelligence.

In an intimate little study entitled "Adventures in Stupidity" Professor Lewis M. Terman<sup>1</sup> has given us a wonderfully clear and scientific picture of a youth whom he designates as "K." This boy was the son of a prominent small-town banker, and up to the time of his entrance into Stanford University apparently lived the normal life of a rich boy in such an environment, riding around in a sport-model automobile, occasionally helping out in the general store of which his father was the proprietor, and squeezing through his high-school courses by the nar-

<sup>1</sup> Terman, Lewis M., "Adventures in Stupidity: A Partial Analysis of the Inferiority of a College Student," *The Scientific Monthly*, January 1922. Quotations from this article by kind permission of author and publisher.

rowest of margins. K's father, among his other activities, was a member of the school board, which may perhaps explain why K advanced as far along the primrose path of education as he did.

K entered Stanford University when he was twenty years old, having spent five years in getting through high school in spite of his father's influence. Transplanted to a more rigorous academic climate, K promptly withered to such an extent that within a few weeks his instructors began to question his intelligence and sent him to Professor Terman for careful study.

A Stanford-Binet intelligence test showed that K, who was twenty years old, had the mental capacity of the average boy of twelve and a half years. In educational performance he rated at about the seventh grade. Terman became interested in his case and proceeded to give him most of the tests in the psychological kit bag. The rather surprising results of these we shall consider in a moment.

Physically, K was a rather personable young man, well dressed, good manners, an "expressive" smile. As he also had a high-powered automobile he promptly became one of the brothers in a Greek-letter fraternity. To the ordinary observer he probably would have seemed a normal chap, evidently of fairly good breeding, tactful and friendly. Terman noted that he talked but little, frequently answering only with a knowing smile or a softly spoken affirmative. Something in both smile and voice was singularly disarming, appealing. All in all, just the sort



of young fellow that you can find idling around the confectionery or the Y. M. C. A. in every small town in America.

Mentally the picture is not so pleasing. In fact, his intellectual inferiority is occasionally downright amazing. For example, in the similarities test, an eighth-year performance, he was asked to compare wood and coal. His answer was "both used for fire-wood." Some other responses from this test may be noted.

*Question:* Iron and silver—how are they alike?

*Answer:* I don't know that one. Oh yes, they are heavy.

*Question:* A ship and an automobile—how are they alike?

*Answer:* Propeller.

*Question:* A rose, a potato, and a tree—how are they alike?

*Answer:* Can't get that.

*Question:* A hat and a coat—how are they alike?

*Answer:* Both gold rimmed.

*Question:* Animal and plant—how are they alike?

*Answer:* Both have hearts.

*Question:* A lamb, a calf, and a child—how are they alike?

*Answer:* All have feet.

*Question:* Grass, cotton, a tree, and a thistle—how are they alike?

*Answer:* All green.

If we did not have Professor Terman's assur-



ance to the contrary, we might be justified in thinking that K was not really trying on this test. The evidence shows that he actually did his best and that for him any such abstract process as that involved in comparing an animal and a plant or a rose and a potato was too much of an effort.

It is obvious that the writer who would appeal to K must not indulge in any elaborate comparisons. K simply would not understand. Practically all poetry and most prose is a closed book to him. He may read; he may pronounce the words. He will not comprehend.

In that connection it may be interesting to note some other test responses indicating K's general level of performance. This next test is one of comprehension.

*Question:* Why are people who are born deaf usually dumb also?

*Answer:* Don't know.

*Question:* You are hauling a load of lumber; the horses get stuck in the mud and there is no help to be had. What would you do?

*Answer:* Go for help.

*Question:* Why is New York the largest city in America?

*Answer:* Because of its size and wealth. It covers such a large area.

*Question:* Why should people have a license to get married?

*Answer:* There would be too many marriages.

*Question:* Why should women and children be rescued first in a shipwreck?

*Answer:* There ain't any reason.

These are typical of some of the failures of understanding of which K was capable. His performance was about that of the average ten- or eleven-year-old. He does worse here than on vocabulary tests, where he scores nearer to a thirteen-year-old performance. We may note some of his typical responses to words:

*Question:* What does lecture mean?

*Answer:* To be taught. A sort of lecture course.  
One who relates about his experiences.

*Question:* Skill?

*Answer:* Knowledge.

*Question:* Ramble?

*Answer:* Go fast.

*Question:* Civil?

*Answer:* Don't know.

*Question:* Nerve?

*Answer:* Pertaining to mind. Get more nerves.  
Sort of brain.

*Question:* Regard?

*Answer:* Meaning good.

*Question:* Brunette?

*Answer:* White, I guess.

*Question:* Hysterics?

*Answer:* Pertaining to the nervous system.

*Question:* Mosaic?

*Answer:* Pertaining to architecture from a foreign country.

*Question:* Bewail?

*Answer:* Can't think of that at all.

*Question:* Priceless?

*Answer:* No value.

*Question:* Tolerate?

*Answer:* Try to get away from.

*Question:* Frustrate?

*Answer:* Sort of nervous.

*Question:* Harpy?

*Answer:* Happy, I guess.

*Question:* Majesty?

*Answer:* Don't know how to use it. Would it pertain to a queen?

*Question:* Treasury?

*Answer:* Pertaining to money.

*Question:* Crunch?

*Answer:* Don't know.

*Question:* Sportive?

*Answer:* Pertaining to sport; not sure about it.

*Question:* Shrewd?

*Answer:* Conservative.

*Question:* Repose?

*Answer:* Don't know that one.

*Question:* Peculiarity?

*Answer:* Very peculiar.

*Question:* Conscientious?

*Answer:* Good in his work, I guess.

*Question:* Philanthropy?

*Answer:* Would it be wealthy?

*Question:* Irony?

*Answer:* Strong.

K did not know the meaning of the following: Promontory, Avarice, Gelatinous, Drabble, Embers, Tragic, Voluntary, Perpetual, Optimist, Repent, Capitulate, Contemplate, Bestow, Cooper, Hypocrite.

We have said that K's performance as far as vocabulary is concerned was about that of a thirteen-year-old. Put in another way, K's vocabulary is probably average or above the average for our American populace. There is food for thought in this for the writer who is interested in making himself understood by the man in the street.

Additional light on K's vocabulary is to be found in his responses to the *opposites* test. Some typical words and the responses which they elicited are listed on page 205.

The haziness of K's mental processes is here revealed. He has a vague idea of the meanings of many words, through long years of association with them in school and at home. Finding these words in a story or newspaper or book, he probably could read them aloud with a knowing air which would deceive the unsuspecting onlooker. As a matter of fact, the finer shades of meaning are beyond his grasp. In spite of his automobiles and his inherited money, he is mentally poverty-stricken.

This lack of intellectual equipment Terman also brought out by studies having to do with K's knowledge of fields of literature and history. History had

<i>Words</i>	<i>Responses (supposed to be opposites)</i>
Wise.....	Not wise
Silent.....	Still
Similar.....	Things
Cheap.....	Goods
Never.....	Will
Joy.....	Gloom
Prompt.....	Late
Vacant.....	Don't know
Busy.....	Dull
Distant.....	Close
Lazy.....	Don't know
Easy.....	Hard
Generous.....	Close
Horrid.....	Mild
Rude.....	Good
Top.....	Tail
Many.....	Few
Rough.....	Calm
Upper.....	Lower
After.....	Before
Best.....	Poor
Weary.....	Tired
Careful.....	Not careful
Stale.....	Old
Tender.....	Tough
Ignorant.....	Bright
Join.....	Not joined
Rare.....	Tender
Advance.....	Not advanced
Gay.....	Don't know

been K's favorite school subject and he had studied it for four years in high school. On test he revealed the information that "New York was settled by the English, that the Mississippi Valley was first explored by the United States and England, that Lafayette and Hancock were American generals in the Revolutionary War, that Jamestown was not settled until after the fall of Quebec and the capture of New Amsterdam by the English, that Louisiana was not purchased until after the Missouri Compromise and the Dred Scott Decision, and that Alexander Hamilton was President of the United States." K did not know what Hannibal, Cheops, Solon, Attila and Mithridates were noted for. He thought that Demosthenes was a great writer, that Charlemagne and Constantine were rulers over Egypt. He did not know what the Phoenicians or the Saracens or the Persians, Egyptians or Arabians, or the Babylonians had contributed to civilization. He could not name a historian, a philosopher, a builder, or a poet, from ancient history. He did remember that Raphael was a painter.

For K the glory that was Greece and the grandeur that was Rome do not exist. Great movements in history, in art, in science, in literature are a blank to him. He can read the birth and death notices in the home-town newspaper. He might even read with some appreciation a simple love story. He is not in the market for anything more complicated than that.

Terman interviewed the boy on the subject of his



reading tastes. K claimed that from the time he entered high school he had spent one or two hours a day in reading, mostly newspapers and magazines. Among the magazines that he read were *The American Boy*, *The Youth's Companion*, *Popular Mechanics*, *The Literary Digest* and *The World's Work*. It will be noted that most of these are generous in the use of pictures. The only books that he could remember having read through were *Little Women*, Alger's books, *Robinson Crusoe*, and volumes of Draper's *Self-Culture*. He had never read a book of travel, or any novel, or any books on mythology. He had read no poetry except that in his school books. "I don't like poetry!" he said.

#### HOW STUPID IS K?

Terman points out that K is really not especially stupid, in comparison with vast masses of his fellow citizens. Judging by the intelligence tests made in the United States army K is only slightly below the average. He is probably of higher intelligence than the lowest 30 per cent of our white voters; he is probably about the equal of the average semi-skilled laborer. His intelligence is probably not equaled by more than 40 to 50 per cent of barbers and teamsters or by more than 20 to 30 per cent of unskilled laborers. He is considerably above the average of our South Italian or our Mexican immigrants. Terman states that as "Compared with the average American negro K is intellectually gifted, being equaled by

probably not more than 10 to 15 per cent of that race." Among some of the well-known feeble-minded families such as the Jukes, the Kallikaks, the Pineys, the Hill-folk, the Ishmaelites, or the Zeros, K would be an intellectual Hercules. K is stupid only by comparison. By comparison he is also gifted.

We should note that K bears no physical stigmata by which he may be detected. His eyesight is good. His senses are alert. He is perfectly able to take care of himself. As Terman remarks, "He is probably less in danger of being run over by an automobile than the average college professor. He can probably drive an automobile as skillfully as the average lawyer, doctor, or minister could do with the same amount of experience. There is nothing in his intelligence that would prevent him from reaping world renown as a champion athlete. His handwriting would be a credit to a statesman."

The writer or the publisher who is interested in appealing to the masses would do well to have a little portrait of K pasted upon the wall of the literary workshop. K is not to be despised. He has money. He may even have power and prestige. As has been so often said, God must love him, for he has made so many like him. It is a false intellectual aristocracy that ventures to sneer at him and his kind. Rather he may be thought of as a challenge, a challenge to all of the writer's cleverness, his descriptive powers, his clearness.

## CHAPTER EIGHT

### THE MEASUREMENT OF THE EFFECT

"The Rejected Woman"

"The King of Manhattan"

"True as Steel"

"Second Youth"

"The Gold Dust Brothers"

"Greed"

"Who Cares?"

"Mary's Friend"

"Treasure Ships"

"Fate"

HERE are ten motion-picture titles. Which one, in your estimation, is most likely to attract the public to the box office? Which will be easiest for the public to remember? Which will attract men? Which will attract women? Which will attract children?

The answer which you give to these questions is of course merely an *opinion*. Before going farther you will find it interesting to jot down that opinion in order to compare your judgment with the *measurements* to be presented in a moment.

It is the business of science to measure. In his laboratory the physicist is busily measuring the properties of physical materials. The chemist investigates and measures chemical changes. Whatever exists, says the scientist, exists in quantity. Whatever exists in quantity can be measured.

There exist differences in efficiency among these ten motion-picture titles. "Who Cares?" does not create the same effect as "Treasure Ships." "Mary's Friend" and "Fate" bring far different images. For a person in the about-to-go-to-see-a-movie state of mind the associations called up by "The Rejected Woman" are of a different type from those aroused by "The Gold Dust Brothers." What can we do about these differences? Can we take them into the laboratory and measure them scientifically as we would measure the tensile strength of a bar of iron or the specific gravity of some chemical?

What we wish to do in this case is to measure the psychological *effect*. What does the title, "Mary's Friend," do to the reader? Does it get attention? Does it arouse interest? Is it pleasing or displeasing? Does it create a desire to know more? Will it cling tenaciously in memory?

#### LABORATORY METHODS OF PSYCHOLOGICAL MEASUREMENT

There are two general ways of measuring psychological effects. One is called the objective method and consists in seeing what people do when a certain

situation is presented to them. This is a favorite method of the behaviorist. At the beginning of Chapter IX we give an excellent example of this method in the quotation from Watson's discussion of how he would determine the effects of works of art. He suggested putting the art object in a room, letting people look at it as much as they wished, recording whether they laughed or frowned, and how long they stayed to look. Variations of this method have been employed in studies of attention value of advertisements and of different parts of the advertisement.<sup>1</sup>

In the psychological laboratory a number of objective measures are being developed which have as yet found little application in the study of literary effect, but which may be of some importance in the future. One of these methods consists of the recording of emotional reactions by means of a galvanometer. The galvanometer is a delicate apparatus which may be used to record the slight variations in the electrical conductivity of the human body which accompany emotional changes. It is possible that the effects of literary passages might be scientifically studied by this device. Although it has been used on a small scale for this purpose, the whole subject is as yet relatively undeveloped.

Givler<sup>2</sup> used an objective method as a part of his

<sup>1</sup>Nixon, H. K., *Two Studies of Attention to Advertisements, and An Investigation of Attention to Advertisements*, New York, Columbia University Press, 1926.

<sup>2</sup>Givler, R. C., "The Psycho-physiological Effect of the Elements of Speech in Relation to Poetry," *The Psychological Monographs*, vol. xix, no. 2, Psychological Review Publications, Princeton, N. J., Psychological Review Company, 1915.



study of "The Elements of Speech in Relation to Poetry." He had his subjects scan nonsense lines such as the following:

La-mo, la-mo, la-mo, la-mo, la-mo  
La-bo, la-bo, la-bo, la-bo, la-bo  
La-ro, la-ro, la-ro, la-ro, la-ro  
De-ho, de-ho, de-ho, de-ho, de-ho  
Ho-de, ho-de, ho-de, ho-de, ho-de

As the subject scanned these he was to beat time with his index finger. A recording device was attached to the finger in such a way that the extent of movement was registered on a ribbon of smoked paper. The object of the experiment was to measure the psychomotor effects of various sounds and the relation of these physical effects to the accompanying pleasantness or unpleasantness. It was found, for example, that the scanning of the *ho-de* line produced on the average a greater motor output than did *de-ho*. There are also peaks of force within the line; thus the *ho-de* curve rises from start to finish with a remarkable rise on the fourth foot of the fifth group. (Each line was repeated five times.)

Givler hoped to develop a tonal calculus by which one could estimate the probable effect of any particular combination of speech elements. After eight years of work in which he phonetically measured and tabulated 18,000 lines involving the enumeration of some 540,000 sounds, measured nearly 300,000 bits of data and made more than a million mathematical computations, Givler concluded that "the intro-



spective consciousness, and the motor, too, are not such things as can be coerced and cajoled." We therefore shall not cite any of his data, but his method suggests interesting possibilities.

Other objective methods involve the measurement of changes in pulse rate, breathing, and blood pressure, and chemical examination of the blood itself. There are some situations in which they might be used to reveal interesting facts about the effect of literary materials.

#### READING TESTS IN MEASURING THE EFFECT

A type of objective measure which has recently received considerable attention from laboratory workers is that which makes use of the so-called reading test. The essential feature of this method is the presentation of literary material to a reader or group of readers, with a subsequent report on the amount retained in memory after a period of time. Thorndike has employed this device extensively in his intelligence tests, where the aim is to measure the efficiency of the subjects of the experiment rather than the material itself. The results, however, may be used equally well to show differences in the effectiveness of the literary passages. An example of this use of reading tests is given by Lay,<sup>1</sup> who read two paragraphs to groups of subjects and after the presentation of each asked for a written report of all the items

<sup>1</sup> Lay, Wilfrid, "Mental Imagery," *Psychological Review Monographs* no. 7, vol. ii, 1897-1899.

that could be remembered. One passage from "Madame Bovary" follows:

She always went with him to the first step of the outside stairs. If his horse had not yet been brought forward they remained there. They said goodbye; they attempted no further remark; the fresh air encompassed her, played with the downy hair of her neck or blew about her side the strings of her apron, which twisted and twirled like a little flag. Once, when a thaw had set in, the water was trickling down from the bark of the trees and the snow was melting from the roofs of the buildings. She stood on the threshold; she went back to get her parasol; she opened it. The parasol was of a changeable green and blue silk and the sun shining through it lent a radiant and flickering lustre to her white complexion. She smiled beneath it while the soft zephyrs played about her and the raindrops were heard to come pattering down one by one on the outstretched silk of the parasol.

The subjects were allowed ten minutes to write down what they remembered from this. They were then given a second paragraph, a quotation from Bain:

The subject-matter of geometry embodies a few fundamental notions and processes. A definition, an axiom, a postulate, a proposition, whether theorem or problem, a chain of demonstrations, are to the beginner things absolutely new; they must be fixed by the plastic power of contiguity; and time and concentration must be allowed for the purpose. But in a

good head one or two examples of each, strongly imprinted, will make the rest easy; the method or character of the devices will be seen through and acquired, and in every new case the mind will fall back upon the old ones for the common element, and concentrate attention upon the points of difference solely. When, after going over a few definitions, the learner is impressed with the form and peculiarity of a definition, there is little to acquire in the rest; a slight substitution serves to make a new one out of an old; the definition of a square is easily changed to suit a rectangle.

Lay tabulated the number of items remembered from each paragraph by his hundred subjects, and the relative frequency with which each separate item was recalled. He found that 2,458 "memories" were reported for the paragraph from "Madame Bovary," while only 1,232 were reported for the quotation from Bain. Apparently the one paragraph produces practically twice as much effect, measured in terms of memory, as does the other.

We are here interested primarily in the measurement of the effect rather than in the mechanism by which it is produced, but we cannot forbear to point out that a part of this difference in memorability arises from the presence of concrete terms in the one case and the use of a great number of abstract and unfamiliar terms in the other. It is interesting to note that in the passage from "Madame Bovary" 69 per cent of the subjects remembered the horse, 70 per cent remembered the parasol, 60 per cent remem-

bered that it was green, and 34 per cent that it was blue; in the passage from Bain, while 79 per cent remembered that it spoke of geometry, only 4 per cent remembered that it spoke of demonstration, 20 per cent that it spoke of contiguity, 5 per cent that it spoke of time, 3 per cent that it spoke of definitions, and so on; 53 per cent, however, remembered that it spoke of a square and 59 per cent remembered the rectangle. We may summarize all of this in a rule: If you want your pictures to burn themselves into memory, make them concrete—as concrete as the changeable green and blue silk parasol or the downy hair on her neck or the apron which twisted and twirled like a flag; if you want to be forgotten, be abstract.

#### SUBJECTIVE METHODS OF MEASUREMENT

In the literary field by far the most frequently used methods of investigation have been those which are known as subjective—that is, depending upon opinion or impression. Here it is customary to ask the observer to report introspectively the effect which he believes the particular production to have had on him. The dangers of this procedure are obvious. Individual bias and prejudice come in to invalidate the reports, and it is necessary, if the data are to have significance, that the idiosyncrasies of individual judgment be counteracted through the massing of the opinions of many people.

One of the commonest laboratory devices for mak-

ing more valid the data to be derived from individual opinions is that known as the order-of-merit method. This method has as yet been applied relatively infrequently to literary material, but its successful use in other fields, notably in the evaluation of advertisements, suggests its possibilities. We shall proceed to a somewhat abstract discussion of this technique and illustrations of its practical application.

#### THE SELECTION OF A GOOD TITLE

Returning to the ten motion-picture titles given at the beginning of this chapter, we shall for purposes of illustration introduce an investigation of the order-of-merit method as applied in the selection of an effective title. In the experiment to be described, copies of these ten titles were printed and distributed to a hundred persons, fifty men and fifty women.<sup>1</sup> These individuals were instructed to imagine that they were going to attend a motion-picture show and that they had to make their selection on the basis of the titles alone. They were asked to number as 1 the picture which they would place first on the list, and as 10 the picture which they had the least desire to see. They were then to fill in the intervening steps, 2 being the second most desirable, 3 the third, and so on. For each of the hundred subjects an order of merit

<sup>1</sup> These hundred judges probably represent a fairly good cross section of the adult population. They ranged in age from seventeen to fifty, with the median at twenty-two. The group included students, clerks, teachers, business men, and business women. In education and intelligence they probably average slightly above the average of the country as a whole.

of the titles was thus secured. A sample of these orders is shown in Table II, where the ratings of the titles as made by ten of the hundred judges are presented.

TABLE II

A SAMPLE TABULATION SHOWING HOW TEN OF THE HUNDRED JUDGES RATED THE TITLES

Titles	Judges										Sum	Group Order
	A	B	C	D	E	F	G	H	I	J		
"The Rejected Woman".....	10	10	6	10	3	10	10	5	8	2	74	(Ninth)
"The King of Manhattan".....	4	1	4	9	6	5	3	7	6	7	52	(Fifth)
"True as Steel".....	1	7	1	6	7	8	2	9	4	5	50	(Fourth)
"Second Youth".....	6	4	5	3	4	2	8	2	3	6	43	(Third)
"The Gold Dust Brothers".....	7	3	10	7	8	4	4	10	9	9	71	(Eighth)
"Greed".....	5	6	2	2	10	6	9	1	2	10	53	(Sixth)
"Who Cares".....	9	5	9	8	2	9	7	4	5	3	61	(Seventh)
"Mary's Friend".....	8	9	8	5	9	7	6	8	10	8	78	(Poorest)
"Treasure Ships".....	3	2	7	1	1	1	1	6	1	4	27	(Best)
"Fate".....	2	8	3	4	5	3	5	3	7	1	41	(Second)

(Judge A rated "True as Steel" first, "Fate" second, and so on.)

In this table we have illustrated on a small scale the process of combining the judgments of individual raters to secure a group order. Thus in the case of "The Rejected Woman," which was rated tenth (or lowest) by Judge A, tenth by Judge B, sixth by C, and so on, we add together all of the ratings to find the sum, which for the ten judges is 74. In a similar manner we secure the sums of the ten judgments for each of the titles. We find that "Treasure Ships" totals only 27, indicating that it was ranked



near the top of the list by most of the judges. "Mary's Friend," on the other hand, totaled 78, indicating that for these ten judges it was the poorest title.

We have given the results for these ten judges as a sample in order to show the general nature of the procedure. It would take too much space to present the individual ratings for all of the hundred judges, but the method of finding the group order is exactly

TABLE III

SHOWING, FOR ONE HUNDRED SUBJECTS, THE SUM OF THE RANKINGS, THE AVERAGE RANKING, AND THE GROUP ORDER

Titles	Sum of rankings	Average ranking	Group order
"Treasure Ships" . . . . .	390	3.90	Highest
"Fate" . . . . .	408	4.08	2nd
"Greed" . . . . .	451	4.51	3rd
"The King of Manhattan" . . . . .	479	4.79	4th
"Second Youth" . . . . .	507	5.07	5th
"True as Steel" . . . . .	551	5.51	6th
"Who Cares?" . . . . .	586	5.86	7th
"The Rejected Woman" . . . . .	679	6.79	8th
"The Gold Dust Brothers" . . . . .	698	6.98	9th
"Mary's Friend" . . . . .	751	7.51	Lowest

the same. Table III shows the results. Here the sums, the average ranking, and the group order as determined by the hundred judgments are presented. In this table we have rearranged the order of the titles, placing at the top of the list "Treasure Ships," which our subjects found to be the best title, and at the bottom of the list "Mary's Friend," which was the poorest.

#### HOW RELIABLE ARE THE RESULTS?

We now have an order of effectiveness for our ten motion-picture titles as judged by one hundred individuals. But the practical man will at once demand proof that this group order is more valuable than the judgment of a single expert. There are two lines of evidence that may be submitted in this connection. The first and most convincing would be an experiment in which the ten titles were actually employed and a careful study of box-office returns made. Unfortunately, no such data for these titles are available, but in other fields experiments showing the close relationship between the results of the order-of-merit method and objective checks have been made and are very convincing. Hollingworth,<sup>1</sup> for example, applied the order-of-merit method in the case of advertisements and found that his simple laboratory test agreed closely with the

<sup>1</sup> Hollingworth, H. L., *Advertising and Selling*, chap. I, "On Measuring the Strength of an Appeal." New York, D. Appleton & Co., 1913. See also Poffenberger, A. T., *Psychology in Advertising*, chap. V, Chicago, A. W. Shaw, 1925.

returns actually secured when the advertisements were published. This early experiment has been duplicated many times, so that it is certain that in advertising the order-of-merit method is of great value. In a similar way we shall show, later in the chapter, that in the case of magazine story titles, the order-of-merit method gives results which agree remarkably closely with the order in which the stories are actually read by the public. On the basis of such success in other fields it seems safe to infer that laboratory study of titles will correlate with the actual financial success of the motion picture to the extent that the title is an influential factor in determining that success.

A second line of evidence indicating the validity of an order of merit is the statistical measure of the probability that with repetition of the test with another group of judges a similar order would result. The assumption is that if we find different groups showing substantial agreement in their rankings the group order must be significant.

In the present case we may show this significant agreement by dividing our subjects into two groups of fifty each, and working out the order-of-merit of the titles for each group separately. The process of dividing the subjects was a perfectly random one, the division being made purely by chance. The results are shown in Table IV.

From this table we see that the two groups agreed remarkably well. There were five cases in which the orders agreed absolutely, and in all of the cases

TABLE IV

SHOWING COMPARISON OF THE GROUP ORDERS SECURED  
FROM TWO GROUPS OF FIFTY SUBJECTS EACH

"Treasure Ships"	was ranked		1st	by first second	group of fifty subjects			
	"	"			"	"	"	"
"Fate"	"	"	2d	" first	"	"	"	"
			2d	" second	"	"	"	"
"Greed"	"	"	3d	" first	"	"	"	"
			4th	" second	"	"	"	"
"The King of Manhattan"	"	"	4th	" first	"	"	"	"
			5th	" second	"	"	"	"
"Second Youth"	"	"	5th	" first	"	"	"	"
			3d	" second	"	"	"	"
"True as Steel"	"	"	6th	" first	"	"	"	"
			6th	" second	"	"	"	"
"Who Cares?"	"	"	7th	" first	"	"	"	"
			7th	" second	"	"	"	"
"The Rejected Woman"	"	"	8th	" first	"	"	"	"
			9th	" second	"	"	"	"
"The Gold Dust Brothers"	"	"	9th	" first	"	"	"	"
			8th	" second	"	"	"	"
"Mary's Friend"	"	"	10th	" first	"	"	"	"
			10th	" second	"	"	"	"

where disagreements occurred the differences were small. This finding is further substantiated by a comparison with the order given by the ten subjects as presented in Table II. We may conclude that any group of twenty-five or thirty-five individuals

of the same general social status as the people who took part in this experiment would give substantially the same order as here found. This would seem to indicate the practical value of the results in that they at least represent a stable and predictable reaction of people in the mass.

#### WHAT MAKES A TITLE EFFECTIVE?

It is evident that we can also tell something of the validity of our order of merit from an inspection of the distribution of judgments for particular titles. If we should find that all of our hundred subjects ranked a given title first we should be justified in concluding that its position was absolutely established, since it is very unlikely that a title would be thus unanimously selected unless it possessed very striking and effective features. Even if we did not find any title unanimously ranked first, we should be impressed if we found it consistently ranking high in the scale. The unanimity of opinion is a measure of validity.

When we thus tabulate the judges' reactions to particular titles we find some interesting variations. Consider, for example, the title "Mary's Friend." The concensus of opinion places this title at the bottom of the list. The judges, moreover, are pretty well agreed in their opinion on it. This may be seen from the data in Table V, where we have shown the number of times that this title was assigned to each of the ten possible positions.

TABLE V

SHOWING FREQUENCY WITH WHICH "MARY'S FRIEND"  
WAS RANKED IN EACH POSITION

"Mary's Friend"	was	rated	highest	by	1	judge
"	"	"	second	"	2	judges
"	"	"	third	"	4	"
"	"	"	fourth	"	4	"
"	"	"	fifth	"	5	"
"	"	"	sixth	"	11	"
"	"	"	seventh	"	15	"
"	"	"	eighth	"	15	"
"	"	"	ninth	"	28	"
"	"	"	lowest	"	15	"
Total judges, 100						

From this distribution we discover that "Mary's Friend" received its low rating not because of any especially distasteful feature, but rather because its general drabness caused it to be relegated to mediocre or low positions by most of the judges. It should be noted that only fifteen judges voted that this title was the poorest in the group, whereas, as we shall see presently, thirty-three judges placed "The Rejected Woman" in tenth position. "Mary's Friend" is not a bad title. It just isn't good. It is weak. It carries no suggestion of struggle, of action, of movement. For most people it probably brings to mind vague associations of high-school plays, servant girls, department stores, Childs' waitresses, or the lurid fiction of *St. Nicholas* or the *Youth's Companion*.



We may contrast the reactions of the judges to "Mary's Friend" with the distribution given for "True as Steel," which is presented in Table VI.

TABLE VI

SHOWING FREQUENCY WITH WHICH "TRUE AS STEEL"  
WAS RANKED IN EACH POSITION

"True as Steel" was rated					highest	by	14	judges
"	"	"	"	"	second	"	9	"
"	"	"	"	"	third	"	7	"
"	"	"	"	"	fourth	"	10	"
"	"	"	"	"	fifth	"	10	"
"	"	"	"	"	sixth	"	8	"
"	"	"	"	"	seventh	"	9	"
"	"	"	"	"	eighth	"	13	"
"	"	"	"	"	ninth	"	7	"
"	"	"	"	"	tenth	"	13	"
Total judges, 100								

Here we note that the judges scatter their votes rather evenly from first to last position. Some of them—fourteen, in fact—liked "True as Steel" so well that they placed it at the top of the list. On the other hand, thirteen of them disliked it so much that they placed it at the bottom. One can imagine the mental chasm that separates these two groups of judges. Fifty of the judges ranked "True as Steel" above the mid-line, or in the first five positions, and the other fifty judges ranked it as below the average or in the second five positions.

All this suggests that this title might well prove quite effective with certain sections of the popula-

tion, and be an absolute loss with certain other groups. For the people who like it it probably brings up romantic visions of high emprise, flashing blades and gallant hearts, battle, murder and sudden death; the other group, probably the sophisticates, find "True as Steel" the distilled essence of *The Rover Boys*, Horatio Alger, Henty, Mrs. E. D. E. N. Southworth, and Harold Bell Wright—and therefore anathema.

TABLE VII

SHOWING NUMBER OF TIMES EACH TITLE WAS PLACED  
IN EACH POSITION

Titles			"Treasure Ships"	"Fate"	"Greed"	"The King of Manhattan"	"Second Youth"	"True as Steel"	"Who Cares?"	"The Rejected Woman"	"The Gold Dust Brothers"	"Mary's Friend"
Times ranked	1st		24	13	18	11	5	14	6	5	3	1
"	"	2d	19	18	11	12	13	9	4	7	5	2
"	"	3d	9	17	13	16	15	7	9	6	4	4
"	"	4th	11	13	14	7	14	10	10	9	8	4
"	"	5th	7	15	9	12	8	10	14	10	10	5
"	"	6th	12	5	9	16	14	8	8	8	9	11
"	"	7th	5	8	10	7	10	9	20	6	10	15
"	"	8th	6	7	3	11	12	13	14	8	11	15
"	"	9th	3	1	7	5	5	7	15	8	21	28
"	"	10th	4	3	6	3	4	13	0	33	19	15

For purposes of convenience we have here abstracted the rankings of the two titles just mentioned

from Table VII, which gives similar data for all of the ten titles. The writer can well afford to spend some time in poring over this table, for it reveals interesting aspects of human reaction.

Take for example the response to "The Rejected Woman." The five individuals who voted that this was the best title in the lot would probably have been considerably surprised to find that a third of the people taking part in the test thought it the worst possible title. We have no way of knowing just why "The Rejected Woman" was thus rejected, but it seems a fairly safe assumption that for many of the people who placed it low it brought to mind ideas of social transgression, with resultant ostracism and the unpalatable, unhappy ending.

"Treasure Ships," on the other end of the scale, rated consistently high, a fourth of the judges placing it in first position and over half of the judges placing it in one of the first three positions. Here explanation is not so difficult. "Treasure Ships" captures the same audience as "True as Steel," those who crave adventure, while at the same time it does not alienate any considerable portion of the judges by reason of hackneyed associations. Most of us are incurably romantic at heart; perhaps, after absorbing large quantities of the *American Mercury* and *Vanity Fair* we may refuse to take our romance in the same old stereotyped packages, but if some one is clever enough to conceal heart-throbs and midnight escapades and duels and burst dams and pirates' gold

under a new label, we will still eagerly pay our money for the basic thrill for which we all seek.

One of the most interesting of the titles is "Who Cares?" As far as mediocrity is concerned, this probably deserves first prize. It calls to mind no associations, it is absolutely smooth and slippery. Six people placed it first; no one placed it last. It wasn't bad enough to be placed last. The only reason that it ranked as high as it does (seventh on the list) is that there were so many titles that aroused definite antagonism, whereas "Who Cares?" simply aroused indifference, if indifference may be said to be something that is aroused.

The interested reader will find much material for further reflection in Table VII. It is as yet a little early to attempt any thoroughgoing theory of the art of title-building. With the accumulation of experimental results such as those just given we may hope ultimately for some practical rules, based upon facts rather than upon academic conjecture. For the present it seems sufficient to call attention to the fact that the public as represented by this cross section of a hundred judges does have fairly definite likes and dislikes, and that any one individual opinion as to what those likes and dislikes are is likely not to agree especially closely with the more scientific expression of them as embodied in the group order. In those cases where our aim is to please the public we may find it profitable to substitute some such scientific approach for our own guess-so.

## WHICH TITLES WILL THE PUBLIC REMEMBER?

One week after the judges had seen the ten titles that we have just been discussing they were without warning asked to write down all of them that could be recalled readily. In the original presentation of the material there had been no undue stress on any one title, and, as far as the conditions of the test would allow, all had an equal chance to be recalled. One of the titles, "Greed," had been used some time before as a title for a book and for a motion picture and some of the judges had seen it advertised. It is possible that this advertising gave it a special advantage. The other titles were presumably on an equal footing. The results of the memory test were as shown in Table VIII.

TABLE VIII

SHOWING HOW NINETY JUDGES REPORTED THEIR  
MEMORIES OF THE TITLES

"Greed"	was remembered by 58 judges			
"Treasure Ships"	"	"	" 47	"
"The King of Manhattan"	"	"	" 44	"
"Fate"	"	"	" 43	"
"The Rejected Woman"	"	"	" 34	"
"The Gold Dust Brothers"	"	"	" 27	"
"Mary's Friend"	"	"	" 36	"
"True as Steel"	"	"	" 24	"
"Second Youth"	"	"	" 11	"
"Who Cares?"	"	"	" 8	"

In many ways the findings in this part of the experiment are of more immediate interest than those appearing in connection with the order-of-merit

method. The difference in memory value between "Greed" and "Treasure Ships" at one end of the scale and "Who Cares?" at the other, is so marked that one cannot fail to be impressed with the probable resultant difference in the economic value of the titles. Certainly it will be agreed that a picture burdened with the title, "Who Cares?" would be under a tremendous handicap.

Incidentally "Who Cares?" like the paragraph from Bain, is hard to remember because it is abstract. It is a commonplace of psychology that we think largely in terms of the concrete. Abstractions lack the close associations which make for ease of recall. Notice how much easier "Who Cares?" would have been to remember if it had been recast as "Who Cares for Bessie?" or "Who Cares for the Carpenter?" or "Does God Care?"

An interesting sidelight on the memory test was the frequency with which some of the titles were remembered in a mutilated or distorted form. These distortions give valuable hints concerning the process by which the individual recalls a title. Consider, for example, the following:

The Unrejected Woman	The Treasure Hunter
The Woman Scorned	Buried Treasure
The Neglected Woman	Pleasure Island
The ——— Woman	The Palace Doors
The Deserted Woman	The Gold Dust Twins
The Only Woman	Youth
The Forsaken Woman	Rewarded Youth
The Red Woman	Fascinating Youth



The Unchastened Woman	Fear
The Forgotten Woman	Truth
The Fallen Woman	Virtue
The Merry Widow	Creed
Title Concerning the	Ambition
Character of a Woman	What's the Use?
Mary's Test	Sound as Steel
Mary's Sister	Iron and Steel
Mary's Lover	Tempered Steel
Mary's Brother	The Crisis
Mary's —	Chance
Mary's Cousin	Fear
Mary's Pal	Passion
The Island of Treasure	Manhattan Madness
Shipwrecked	The Prince of Manhattan
Desert Gold	Don't Stop <sup>1</sup>

It will be noted that distorted forms appear for all of the titles, but that some of them seem more subject to memory twists than others. "The Rejected Woman" in particular suffered such indignities. "True as Steel" and "Second Youth" were relatively infrequently confused. There seems to be no one general reason for confusion, but the reader may venture some guesses for particular cases. It is interesting to see the frequency with which single words came up in recall. The subjects seemed to have a hazy memory of "Greed" and "Fate" which perhaps suggested "Virtue," "Chance," "Truth," "Fear," "Passion," and so on.

<sup>1</sup> These distorted titles are not included in the tabulation of recalls in Table VIII.

## SEX DIFFERENCES IN REACTIONS TO TITLES

Sex differences in this case are negligible. When a tabulation was made showing the relative position of the titles as established by the men and by the women, small minor variations were discovered, but in general these are attributable to the working of

## TABLE IX

SHOWING COMPARISON OF THE ORDERS FOR THE TITLES  
AS GIVEN BY MEN AND WOMEN

"Fate"	was ranked	1st by the men 2d by the women
"Treasure Ships"	" "	2d by the men 1st by the women
"Greed"	" "	3d by the men 3d by the women
"The King of Manhattan"	" "	4th by the men 4th by the women
"Second Youth"	" "	5th by the men 6th by the women
"Who Cares?"	" "	6th by the men 7th by the women
"True as Steel"	" "	7th by the men 5th by the women
"The Rejected Woman"	" "	8th by the men 8th by the women
"The Gold Dust Brothers"	" "	9th by the men 9th by the women
"Mary's Friend"	" "	10th by the men 10th by the women

chance and it seems probable that with more judges complete agreement between the sexes would be found. Table IX shows how the titles were ranked by the two groups. The only noteworthy difference is in connection with "Fate" and "Treasure Ships."

#### PREDICTING WHAT PEOPLE WILL READ

We have next to report the result of another experiment which hints at a possibility of predicting before publication the extent to which competing stories and articles will be read. We must make clear in advance that this possibility is only suggested in the results and that the present data leave much to be desired.

A first question of importance has to do with the analysis of the factors which operate in the case of any single publication—say a national magazine—to determine what a given reader will read. Assuming our reader to be seated comfortably in his easy chair, casually turning the pages of his magazine, what are the factors which determine his choice of an hour's entertainment? What is the relative importance of each of these factors?

The present investigation attempted to take into account the influence of the following:

1. The title of the story or article.
2. The first line or paragraph.
3. The picture and general layout.
4. The prestige of the author's name.
5. The combined effect of all of these.

The *Saturday Evening Post* for July 21, 1923, afforded the material for the research. On Thursday morning, before readers of the *Post* had had opportunity to look over that issue of the magazine, groups of subjects similar to those used in the investigation of titles were requested to give a number of order-of-merit ratings. First they were shown the lists of the titles of stories to appear in the *Post* for that week, and were requested to indicate the order in which they would prefer to read these. The story titles, their average ranking, their relative positions, and the probable error<sup>1</sup> of the averages are given in Table X, on the opposite page.

It should be remembered that the judges in considering these titles had no hint of the author's name or anything about the character of the story other than could be detected from the title itself. This particular issue of the *Post* contained chapters of Harry Leon Wilson's "Oh, Doctor!" Since this was the first appearance of the title, the subjects did not know and were not influenced by the fact that

<sup>1</sup>The probable error (P. E.) is a statistical device to indicate the reliability of an average. The chances are even that the true average—that is, the average that would be found if we had thousands of subjects for our experiment, instead of the seventy who were actually employed—would lie within the range of one probable error above or below the average found. Thus, in the case of "The Tragedies of Mr. Pip" we found an average position of 2.64 and a probable error of .095. The chances are even that the true average to be secured from thousands of cases would lie somewhere between 2.64 minus .095 (or 2.54), and 2.64 plus .095 (or 2.73). This device is useful in giving an idea of the dependability of an order-of-merit. The reader interested in understanding the method by which the probable error and other measures of reliability can be derived should consult a text-book on statistics.

## TABLE X

SHOWING THE ORDER OF MERIT FOR FIVE "SATURDAY  
EVENING POST" STORIES BY TITLES ALONE

(70 judges)

<i>Titles</i>	<i>Order</i>	<i>Average Position</i>	<i>Probable Error</i>
"The Tragedies of Mr. Pip".....	Best	2.64	.095
"Oh, Doctor!".....	Second	2.79	.114
"Oak".....	Third	2.94	.108
"Thanks for Your Kind Efforts".....	Fourth	3.25	.085
"The Nogg Head"....	Poorest	3.38	.103

it was a continued story. Another title, "Playing Fair," a continued story by Lucy Stone Terrill, was not included in the list of titles, since some of the judges might have seen earlier installments of the narrative. Of the five titles used, "The Tragedies of Mr. Pip" ranked first and "The Nogg Head" last. The difference between their average positions is so great that we are safe in concluding that a real difference in efficiency of these titles exists. The reader concerned with the psychology of titles may profitably pause for a consideration of the reasons for the low ranking of "The Nogg Head."

#### WHAT MAKES A GOOD FIRST LINE?

A second portion of the experiment had to do with the order-of-merit for the first lines of the

stories. These first lines were typed on separate sheets and given to judges to be ranked in the order of their appeal. They were as follows:

First Line of Story A—

The atmosphere of the small living room had grown tense with the watchful waiting of its three silent occupants.

First Line of Story B—

Shuffling, tapping with his blood-stained gaff, the blinded Newfoundland seal-hunter at dawn adventured his derelict way across the vastly swinging floes.

First Line of Story C—

Mr. Arthur Embury Thompson stood before the mirror and cerebrated violently.

First Line of Story D—

For Charles Edward the twenty-ninth of May was a great day, not because it was the anniversary of the fortunate elusiveness of Charles II, but because on that day Alexander the Great, a popular London tailor, was sending him a new suit.

First Line of Story E—

Press cupboards, livery cupboards, court cupboards and chests on frame! All these four forms of practically the same thing were pouring through Francis James's mind.

The judges were told not to try to connect the first lines with the titles, which were arranged in a random order to prevent any carry-over of association which might influence the ranking. The group judgment of these first lines is presented in Table XI.



## TABLE XI

SHOWING THE ORDER OF MERIT FOR THE FIVE FIRST  
LINES

(70 judges)

	<i>Order</i>	<i>Average Position</i>	<i>Probable Error</i>
Line A.....	Best	2.21	.089
Line D.....	Second	2.68	.096
Line C.....	Third	3.08	.102
Line B.....	Fourth	3.19	.108
Line E.....	Poorest	3.82	.080

Some hints of the technique of first-line construction are to be found in this table. Line A, which was ranked by the judges as being most likely to lead them to read the story, takes us at once into a scene of suspense and mystery. We want to know what is going to happen next, why the atmosphere is tense, why the attitude is that of watchful waiting, why the three mysterious occupants are silent.

On the other hand, the first line which was rated lowest begins with nothing more interesting than the disjointed ideas which were pouring through the supposed mind of a character whose name does not suggest anything especially exciting. This line is of the selective type in that it automatically eliminates those who are not interested in press cupboards, livery cupboards, court cupboards, and chests on frame. Perhaps from the point of view of economy of the reader's time such a candidly uninteresting beginning has some ethical sanction. Perhaps Mr. Hergeshei-

mer may have chosen this beginning for artistic reasons. Perhaps like many first lines, it "just happened." Whatever the reason behind its construction, it is not effective.

#### MEASURE OF THE POPULARITY OF AUTHORS

The order-of-merit method lends itself especially well to the measurement of popularity of authors. In the investigation under discussion the names of the five authors were presented to the subjects, who were asked to give their personal preferences. They were warned not to try to connect the authors with the first lines or with the titles already rated, the order of presentation being again a random one in order to prevent such influence by association. The ranking of the authors is shown in Table XII.

In considering the order of preference for authors it should be remembered that this result was

### TABLE XII

SHOWING THE RELATIVE RANKING OF THE FIVE  
AUTHORS

(70 judges)

<i>Author</i>	<i>Order</i>	<i>Average Position</i>	<i>Probable Error</i>
Joseph Hergesheimer..	First	2.50	.112
Sophie Kerr.....	Second	2.53	.086
George Allen England.	Third	3.01	.095
Harry Leon Wilson...	Fourth	3.16	.100
Edgar Jepson.....	Fifth	3.79	.085

secured some years ago and that there have been considerable shifts in the popularity of these writers since that time. It may also be noted that Jepson, who was at that time relatively unknown to *Post* readers, ranks lowest with a small probable error, indicating that the judges were well agreed. Hergesheimer, while he ranks first, has a large probable error, indicating that, although he had some devoted followers who ranked him high, he also had a number of cordial enemies who ranked him low.

## ORDER OF MERIT BY PICTURE AND LAYOUT

In the case of a publication such as the *Saturday Evening Post* it is obvious that the type of illus-

## TABLE XIII

SHOWING THE RELATIVE RANKING OF THE STORIES ON  
THE BASIS OF PICTURES AND LAYOUTS

(35 judges)

<i>Title</i>	<i>Order</i>	<i>Average Position</i>	<i>Probable Error</i>
"Thanks for Your Kind Efforts".....	First	2.80	.130
"Oh, Doctor!".....	Second	2.93	.137
"The Nogg Head"....	Third	3.27	.164
"The Tragedies of Mr. Pip".....	Fourth	3.54	.150
"Oak".....	Fifth	4.14	.106
"Playing Fair" <sup>1</sup> .....	Sixth	4.25	.143

<sup>1</sup> This story had to be included in the report of inspection of the pictures, the magazine as a whole, and in report of readers. Since it was a continued story it was not used in the first part of the experiment.

tration used and the general layout of the page in many cases serve as the determining factors in guiding the reader in his choice of a story. In order to get some data on these items, a special rating was secured by covering up the title, the author's name, and the first line, and presenting the rest of the page for the inspection of the judges. The subjects were warned not to attempt to read anything on the page except the captions for the stories, and were asked to rank the illustrations and layouts in the order of their effectiveness. The resultant order of merit is shown in Table XIII.

#### THE STORIES WHICH READERS PREFERRED

The object of ratings such as we have just been giving is to allow the investigator to predict beforehand the efficiency of the story. For our present purposes that efficiency is to be measured in terms of the number of readers. In other words, the reactions of actual purchasers and readers of the magazine are the criteria against which the results of any laboratory test of this kind should be checked. This implies nothing as to literary or artistic excellence.

To get the data desired it was necessary to canvass some hundreds of people one week after the appearance of the *Saturday Evening Post* of July 21, 1923, in order to determine what stories had been read. Of this group one hundred people were found who had read that issue of the *Post*. They were asked to report what stories they had read. As an aid in

memory a list of the stories with the authors' names was given. From these hundred readers the data given in Table XIV were secured.

TABLE XIV

SHOWING ORDER OF POPULARITY OF THE STORIES  
BASED UPON REPORTS OF 100 READERS

<i>Title</i>	<i>Author</i>	<i>Number of Readers</i>	<i>Weighted Ranking</i>
"Thanks for Your Kind Efforts"...	Kerr	44	184
"The Tragedies of Mr. Pip".....	Jepson	42	162
"Oh, Doctor!"....	Wilson	36	114
"Oak".....	Herge- sheimer	30	86
"The Nogg Head"	England	14	42

From the table we see that 44 of the 100 judges reported that they had read "Thanks for Your Kind Efforts," while only 14 had read "The Nogg Head." We have also given a weighted ranking for these titles, which was secured by giving a credit of five points for each time a reader reported a story as having been read first, four points for the story which was read second, three for the story which was read third, two for the story read fourth, and one for the story read fifth. In other words, the weighted ranking not only indicates something as to the frequency with which the story was read, but also takes into account the frequency with which it was read first. It will be noted that the order for the weighted

ranking is the same as obtained by tabulating the number of readers.

It is interesting to compare this order of popularity based upon reports of readers with the laboratory rankings by titles, first lines, and so on. There are elaborate statistical devices which might be employed in making this comparison, but their introduction in a book of this kind would be confusing. We shall, therefore, content ourselves with merely presenting a table recapitulating the different laboratory orders for these titles, the sum of these orders, and the comparison of the ranking thus secured in the laboratory with the order as established by actual readers.

From Table XV we see that the laboratory order or the order obtained by combining the four separate rankings for titles, layouts, first lines, and authors, agrees remarkably well with the actual reading order. In fact, the agreement is perfect except in the case of "Oh Doctor!" The laboratory results would place it first. Our group of readers, however, preferred "Thanks for Your Kind Efforts" and "The Tragedies of Mr. Pip." This may be explained in part by the fact that "Oh, Doctor!" was a continued story, and some readers may have hesitated to begin it.

As we have said, the data and the procedure just given should be regarded merely as suggestive of the possibilities inherent in laboratory investigations. It seems entirely possible that with a suitable amount of research work we might be able to determine by this method the factors governing the reader's selec-



TABLE XV

SHOWING HOW THE COMBINED ORDERS FROM THE DIFFERENT FACTORS AGREE WITH THE ACTUAL READING ORDER AS REPORTED BY READERS

<i>Arranged According to Order by Readers</i>	<i>Order by Titles</i>	<i>Order by Layout</i>	<i>Order by First Lines</i>	<i>Order by Authors</i>	<i>Sum</i>	<i>Combined Order</i>
1. "Thanks for Your Kind Efforts". (Kerr)	4	1	3	2	10	Second
2. "The Tragedies of Mr. Pip"..... (Jepson)	1	4	2	5	12	Third
3. "Oh, Doctor!"... (Wilson)	2	2	1	4	9	First
4. "Oak"..... (Hergesheimer)	3	5	4	1	13	Fourth
5. "The Nogg Head" (England)	5	3	5	3	16	Fifth

tion of fiction and the relative importance of those factors. We might be able to prove in advance the superiority or the inferiority of any particular story. In the present case, for example, our laboratory test would certainly have predicted the lack of appeal of "The Nogg Head."

Such statistical prediction is of interest to writers to the degree that it reveals the methods of treatment which make for success in winning public approval. Knowledge of these factors should serve to shorten

the process of acquiring a successful technique in writing.

#### STATISTICAL STUDIES OF LITERARY EMINENCE

The ubiquitous scientists have of late been poking into many new fields, among them those hitherto held sacred to the artist and the critic. One of these scientific forays of particular interest to writers is a statistical study of literary merit made by Wells.<sup>1</sup> His object was to analyze the standards upon which critical judgments of authors are based. Introducing his subject, he remarks with considerable insight that:

It is not, however, to be anticipated that the introduction of a scientific method into this field should contribute markedly to the principles of accepted critical procedure; the main function of literary criticism having hitherto been to serve rather as a convenient vehicle for individual expression than for the empirical determination of actual literary relationships.

Wells selected ten imaginative writers for his study. These were Bryant, Cooper, Emerson, Hawthorne, Holmes, Irving, Longfellow, Lowell, Poe, and Thoreau. These he had ranked for general literary merit. The judges were twenty university graduate students in English. Their ranking of the authors is shown in Table XVI.

From the table it may be seen that there are three writers—Poe, Hawthorne, and Emerson—who ranked close together at the top, and three more—

<sup>1</sup> Wells, F. L., *A Statistical Study of Literary Merit*. Columbia University Archives of Psychology. New York, 1907.

## TABLE XVI

SHOWING RANKING OF TEN AMERICAN AUTHORS FOR  
GENERAL MERIT

(Adapted from Wells)

<i>Author</i>	<i>Average Ranking</i>	<i>Order of Merit</i>
Hawthorne.....	2.5	First
Poe.....	2.6	Second
Emerson.....	2.9	Third
Lowell.....	4.4	Fourth
Longfellow.....	5.1	Fifth
Irving.....	5.7	Sixth
Bryant.....	7.1	Seventh
Thoreau.....	7.9	Eighth
Holmes.....	8.1	Ninth
Cooper.....	8.4	Tenth

Thoreau, Holmes, and Cooper—who rank close together at the bottom of the list, the remaining four scattering in between.

Wells also had these ten writers graded in respect to their possession of ten literary qualities. These qualities were selected as giving a kind of analysis of the sources of general literary merit. They were Charm, Clearness, Euphony, Finish, Force, Imagination, Originality, Proportion, Sympathy, and Wholesomeness. Wells says that this list was not determined by any standard method, but was arrived at in consultation with a literary critic. The terms are in the main those commonly found in literary criticisms and Wells thinks that his subjects had no great difficulty in their interpretation.

## TABLE XVII

SHOWING THE ORDER OF RATING OF EACH OF THE  
TEN AUTHORS FOR EACH OF THE TEN

LITERARY QUALITIES

(Adapted from Wells)

<i>Authors</i>	<i>Qualities</i>									
	Charm	Clearness	Euphony	Finish	Force	Imagination	Originality	Proportion	Sympathy	Wholesomeness
Poe	5th	7th	1st	2d	2d	1st	1st	1st	10th	10th
Hawthorne	2d	5th	2d	1st	3d	2d	2d	2d	3d	8th
Emerson	8th	10th	9th	7th	1st	4th	3d	8th	6th	1st
Lowell	4th	8th	3d	5th	5th	7th	6th	4th	4th	4th
Longfellow	6th	2d	4th	3d	9th	5th	10th	5th	1st	2d
Irving	1st	1st	5th	4th	10th	6th	7th	3d	2d	3d
Bryant	9th	6th	6th	6th	6th	8th	8th	7th	7th	5th
Thoreau	7th	9th	7th	9th	4th	9th	4th	9th	9th	7th
Holmes	3d	3d	8th	8th	8th	10th	9th	6th	5th	6th
Cooper	10th	4th	10th	10th	7th	3d	5th	10th	8th	9th

In Table XVII is given the order of rating of each of the ten authors for each of the ten literary qualities. Thus, for example, Irving was rated first for charm, first for clearness, but tenth for force. The student of American literature will find this table suggestive. It is probably chiefly of interest to writers for its analysis of literary qualities and for the light that it throws upon the varying degrees in which those qualities are possessed by literary men.

## CHAPTER NINE

### PSYCHOLOGICAL ANALYSIS OF WRITERS AND THEIR WORKS

IN THIS chapter we propose to outline the attempts that have been made to apply psychology in the analysis of literary products and literary producers. There has been a great deal of nonsense written on this subject, and because of the unscientific nature of the material to be discussed, our attitude will be somewhat adversely critical. The essence of this attitude is to be found in the following quotation from Watson, who shows the prevalence of biased, illogical, and lazy thought among those who set themselves to analyze and criticize works of art. He says:

Still more hokum comes from the so-called art and dramatic critics. There really should be no art or dramatic critics. Our visceral reactions—the final touchstone of artistic judgments (at least of the so-called critics who are not artists themselves)—are our own. They are all we have left in the way of responses that have not been under the steam-roller process of society. From an emotional standpoint, my criticism of a picture, a poem, or the playing of a piece of music is as good as anybody else's. If I had to pass a critical judgment upon a work of art, a picture for example, I should do it experimentally. I should arrange to let crowds of people from all walks of life wander one at a time into a well-lighted

room. I should have rival stimuli about, such as magazines, knick-knacks of one kind or another, two or three pictures on the wall, including the one I wanted to have judged. If an individual under observation spent time at this picture, if he showed some emotional reaction such as grief, joy, rage, then I should put him down as reacting positively to it. At the end of the day I should be able to say: "The so-called art critics will say your picture is terrible, the children will not look at it, the women are shocked by it, but the traveling salesmen chuckle with glee over it. It will be a failure if you exhibit it; I should advise you to send it to some sales manager and let him hang it over his desk." What I am trying to say is that there is a vast amount of charlatanism both in the making of art objects and in their so-called appreciation.<sup>1</sup>

Perhaps there is always a temptation to pose, to parade, to indulge in what Watson calls hokum, when one is discussing art and literature. This temptation seems to have been especially strong and resistance especially weak in the case of a number of psychologists and psychoanalysts who have tried to employ their science as a basis for a discussion of writers and writing. A particularly atrocious case of the prostitution of psychological terminology and concepts to the service of the would-be critic is to be found in a recent article by Swisher, "A Psychoanalysis of Browning's 'Pauline'."<sup>2</sup>

<sup>1</sup> Watson, J. B., *Behaviorism*, p. 200. New York, People's Institute Publishing Co. 1925. Quotation by permission.

<sup>2</sup> Swisher, W. S., "A Psychoanalysis of Browning's 'Pauline'". *Psychoanalytic Review*, 1920, vol. vii, p. 115.



This poem was written by Browning at the age of twenty and purports to be a lover's confession to his lady of some mysterious sin. Swisher assumes that the poem is largely autobiographical and concludes that Browning, among other things, was the victim of a neurosis, that he was homoerotic, and that he had fantasies of returning to his mother's womb. The following is an example of the close reasoning of which Swisher is capable.

*Since* we know that the adolescent years are the years of hero worship, and *considered it likely that* Browning suffered from the shadow of a neurosis, *we may conclude* that the young poet would tend to seek a hero whom he might worship and upon whom, in the characteristic youthful way, he might project himself.<sup>1</sup>

The evidence that Swisher offers to show that Browning had a neurosis is interesting. It seems that sometimes when his mother played sentimental songs at dusk Browning would cry. Also, his grandmother was a Creole and from her he inherited a dark skin. Swisher believes that Browning worried about this. Therefore he had a neurosis!

With this introductory material by way of background, we turn to a typical bit of analysis by which Swisher attempts to show just what kind of a black-guard Unconscious young Browning was carrying around with him. In the poem Browning presents a kind of fantasy or dream:

<sup>1</sup> The italics are not in the original.

I was a fiend in darkness chained forever  
Within some ocean cave; and ages rolled,  
Till through the cleft rock, like a moonbeam, came  
A white swan to remain with me; and ages  
Rolled, yet I tired not of my first free joy  
In gazing on the peace of its pure wings:  
And then I said, "It is most fair to me,  
Yet its soft wings must sure have suffered change  
From the thick darkness, sure its eyes are dim,  
Its silver pinions must be cramped and numbed  
With sleeping ages here; it cannot leave me,  
For it would seem, in light beside its kind,  
Withered tho' here to me most beautiful."

Following the traditional technique in such matters, Swisher interprets the swan as a masculine symbol on account of its snakelike neck. The swan also, for him, stands for poets and poetry and he therefore concludes that the swan is none other than Browning himself. "He is the sweet singer who is singing his swan song." There are, however, some other elements that must be taken into account in the following skillful manner. The quotation is from Swisher.

But the dream is over-determined; the swan since it enters the cleft-rock, the mother, must also stand for the father; it would really appear that Browning, in his Unconscious, thinks that he remembers while still in the womb, coitus between his parents.

Thus does the poet unknowingly reveal himself to this penetrating analyst who then goes on to say:

We have already seen a reason to conclude that through mythical heroes, admiration for the elder Browning's poetic gifts, and the latter's sympathetic understanding, Browning would have every reason to project himself on the father. The poem as a whole is a eulogy upon Shelley. Can the swan stand for Shelley? Shelley was already dead when the dream was dreamed, had "sung his swan-song." It is extremely likely, since Browning had never known Shelley personally, that Shelley is a surrogate for the father. Both were poets. Both were notable for their beauty of poetic expression; it is obvious that Browning had projected himself upon Shelley even so far as to imitate his vegetarianism. It is obvious that he has projected himself upon his own father. Therefore Shelley is the surrogate for the father, or (according to Jung) for the father-imago; he is, in fact a father-imago.

The ponderous finality of this "Therefore" is enough to convince the most skeptical. Browning had a period in his boyhood when he read Shelley. He also liked his father. Therefore Shelley is doomed to be Browning's father-imago whether he likes it or not. Fortunately for the benefit of any hardened individuals who have not been convinced by this line of argument, further and absolutely irrefutable evidence is available. Swisher says:

We may prove this. Browning addresses Shelley as "Sun-treader," a reference to Apollo, the god of the sun; he thinks of him also as a "swan." Jung

traces the words "sun" and "swan" to a common Sanskrit root which is also the root of the various words in ancient and modern languages meaning "to sound" (Lat. *sonare*). "The root *sveno*, to sound, to ring, is found in Sanskrit. . . . Latin, *sonare*, to resound." Thus we have Vedic *svanas*, *svonos*, meaning tone, noise. There is Gothic *sun-na*, *sunno*, the sun. The idea of the singing sun is not new. If we trace the word swan to these ancient roots, we readily comprehend the myths of the singing sun (statutes of Memnon), and the singing swan, which identifies the swan with the sun, as the history of language shows. Now likewise, we understand the likeness of the sun to the brothers' eyes in the Danish folk-tale. The term "Sun-treader" becomes clear. We begin to see a sequence here: The swan and the "sun-treader" are Shelley or the Shelley image, they also stand for the poetic in Browning's own psyche and all stand for the father, since Shelley is the poet's "spiritual father."

At the risk of wearying the reader, I have here quoted at some length to show what a thorough-going symbolist can accomplish when turned loose with the works of another writer who was no mean symbolist himself, although somewhat handicapped by his ignorance of modern psychoanalytic jargon. To the scientific mind Swisher's "reasoning" as exemplified above appears to be so much nonsense and his windy elaboration is strongly suggestive of the clinical symptom known as logorrhea.

## SYMBOLISM, GOOD AND BAD

We are here confronted with a nice problem. In a former chapter we have discussed with somewhat hesitant approval the general concept of symbolism. It is manifest that since symbols are so much a part of our daily thinking and appear in practically all that we do and say they must have a place in our theory of human mechanisms. It is equally clear that the concept of symbolism in the hands of an ignorant or unscientific enthusiast may result in such drivel as we have just quoted from Swisher. When we attempt a survey of the uses to which psychology has been put in the analysis of literature, we are struck by the fact that much of such work has been in the nature of an interpretation of the conscious or the unconscious symbolism of the writer. We find ourselves face to face with the necessity of discriminating, of drawing a line between those studies which are sound and scientific and useful and those which are mere fantastic vagaries.

The difficulty of drawing this line between good and bad interpretations is increased by the widespread use among psychoanalysts of a diabolical argument which runs about as follows; if the particular interpretation which has been placed upon the acts or thoughts of a particular author or character is distasteful to you, your reaction is not the result of any logic, but arises from your own inner "resistance." This resistance, by the theory, simply means that your unconscious recognizes the fundamental truth of the



analysis, but, because it is painful to your conventional, mid-Victorian morality, your consciousness repudiates the suggestion.

The viciousness of this mode of argument should be apparent. It is true that we do tend to repudiate arguments which do not agree with our own bias. Frequently, the sources of this bias are not clearly recognized by the individual. The interference with logical process, however, is relative, not absolute. The refusal to acknowledge the validity of a certain line of reasoning may be because of "unconscious resistance," but sometimes it is because the proposition is logically questionable. The psychoanalytic argument that critics are unconsciously biased is a way of begging the question.

For our guidance in considering examples of the interpretation of symbolism in literature we may profitably note several criteria which should be observed. In the first place, it is dangerous and misleading to attribute any symbolic meaning to a passage unless it is clear from internal evidence or from knowledge of the author's character that he would be likely to intend to portray symbolically the idea which the analyst thinks is present. Thus, in "Bride of the Lamb" we find the erotic heroine purchasing and displaying some candles soon after the beginning of her love affair with the minister. For some people the candle is a phallic symbol. Considering this isolated fragment of the play it is clear that we should not be justified in assuming that the author intended any such symbolism in this particular case. When



we find, however, several other illustrations within the play which point to a knowledge of Freudian mechanisms, we are probably sound in concluding that some symbolism was intended. The only absolute proof would be the testimony of the authors. To assert dogmatically that the author intends symbolism, in the absence of verification of the most conclusive nature, is unscientific and occasionally malicious.

Swisher, quoted earlier in this chapter, is prone to such unscientific assumptions. For example, he cites a passage in which Browning talks of some towers that he noted in a landscape. For Swisher the tower (in fact any pointed object) is a phallic symbol. He therefore asserts that Browning consciously or unconsciously associated towers with sex. His reasoning may be stated as follows:

In psychoanalytic theory a tower is a sexual symbol. Browning describes some towers.

Therefore the passage from Browning must be interpreted as symbolic.

This enthusiastic penchant for finding psychoanalytic sermons in stones and caves and candles, suggestiveness in pictures of water and running brooks, and sex in everything, is not only bad reasoning, but it also may do both science and literature considerable harm. It is good to be able to see more than just the primrose by the river's brim, but there is nothing to be gained, and downright blunting of appreciation may result from proclaiming that the flower, because

of its suggestive shape, represents the female phallus, and that Wordsworth in writing about it was unconsciously trying to convey some of his own incurable eroticism to the reader.

A second argument with regard to symbolism which is absolutely fallacious and pernicious is that if a writer unintentionally or unknowingly makes use of ideas which to the analyst have a sexual significance, that use must be attributed to the working of the writer's unconscious mind. Jeffreys<sup>1</sup> in his psychoanalysis of "Peer Gynt" describes the scene where the hero rides along the ridge of Glendon on the back of the reindeer, which bounds over the edge of the ridge and they fall into the water together. Jeffreys says:

The ridge of Glendon is described as "sheer and narrow as a scythe blade" at the top, with steep slopes at each side in the water below. At the end of the ride the reindeer, still carrying Peer Gynt, bounds over the edge of the ridge and they fall into the water together. Several birds indicate their fright as they pass, thus adding to the general impression of terror. The narrowness, the steepness of the descent, the tightness of the grip of the buck's horns and the association of water, all show further resemblance to birth, a descent *from* the waters of the womb being replaced by a fall *into* water, as more easily reconcilable with conscious experience. The ultimate descent, after a violent spasmodic motion, is realized in a fall in the fantasy. Finally the buck drags Peer Gynt to shore

<sup>1</sup> Jeffreys, Howard, "Ibsen's 'Peer Gynt' a Psychoanalytic Study," *The Psychoanalytic Review*. Vol. xi, p. 361. 1924.

through the water. Then Ase asks what has become of the reindeer, and Peer replies:

"I expect he's where I left him";  
*(Snaps his finger and turns on his heel.)*  
 "If you find him, you may keep him."

The interpretation of the fantasy is that Peer Gynt, in symbolic language, says to his mother: "I love you, but you rejected my love, injured me and made me intensely afraid of you. But I no longer wish to have anything to do with you."

To any scientist the cocksure language and utter disregard of the rules of evidence to be noted in this "analysis" are extremely irritating. The irritation, I judge, arises not from any particular resistance to the ideas involved (which are not especially shocking), but from a hatred of such loose and slipshod thinking. Jeffreys has no right to do more than say: "This is the interpretation that you *can* place on the passage if you find joy in seeing what you can do with psychoanalytic symbols." He has no right to assume, as he does, that Ibsen unconsciously desired to convey this hidden idea.

As a third rule, it is unscientific and almost unethical to assume that because a writer uses a certain symbol, perhaps ignorantly, in a single passage, the writer's own character is to be inferred on the basis of that evidence. As a case in point, Swisher<sup>1</sup> in a

<sup>1</sup> Swisher, W. S., "The Symbolism of Wagner's 'Rheingold,'" *Psychoanalytic Review*, vol. x, pp. 447-452. It is interesting to compare this rather sensational study with the more careful and moderate one of L. Brink in *Women Characters in Richard Wagner*, Nervous and Mental

study of Wagner's "Rheingold" dogmatically declares that Wagner was anal-erotic. He draws this conclusion from the fact that in psychoanalytic theory gold is a symbol for excrement and that the author was concerned with underground passages, symbolizing intestines. Now even if we should grant the relevancy of the symbolism (which we do not), it is manifestly unfair arbitrarily to stamp a man's whole character on the basis of a fragment of his work. Probably Wagner may have had some anal-erotic tendencies, just as do most individuals; there is, however, no justification for throwing these tendencies into bold relief and excluding or subordinating other more important aspects of his character which happen to be less exciting to the pornographic mind.

#### THE LEGITIMATE PLACE OF PSYCHOLOGICAL ANALYSIS

We have just noted negative aspects of the attempts which have been made to apply psychology in literary analysis. There is a positive side to the picture which must not be overlooked. If the cautions given in the preceding paragraphs are observed, psychology may be brought to bear on the problems of the writer and the reader with every expectation of its giving valuable results.

Of the positive functions of psychological analysis there are three. They may be tabulated as follows:

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Disease Monograph Series No. 37. New York and Washington. *Nervous and Mental Disease Publishing Co.*, 1924.

## FUNCTIONS OF PSYCHOLOGICAL ANALYSIS

## 1. CLASSIFICATION

To show that a particular character or writer may be *classified* as exemplifying some principle or theory of interest in the field of general psychology.

## 2. INTERPRETATION

To show that a certain psychological concept or theory applied in a particular case makes comprehensible the behavior of a character or of an author.

## 3. MEASUREMENT AND EXPLANATION

To measure accurately the effects of writing on the reader and to explain the mechanism by which those effects are produced.

In the practical pursuance of these three goals of science there is considerable overlapping. As we shall see in a moment, it frequently happens that classification leads to interpretation, and on the other hand measurement is almost sure to wait upon classification. These points will be clearer if we take some examples under each head.

## CLASSIFICATION STUDIES

A very well worked out bit of classification and one of considerable interest to writers, is to be found in a scientific article by Ashmun<sup>1</sup> on "A Study of

<sup>1</sup> Ashmun, M., "A Study of Temperaments as Illustrated in Literature." *American Journal of Psychology*, vol. xix, 1908, pp. 519-535. Quoted by special permission of *The American Journal of Psychology*.

Temperaments as Illustrated in Literature." The author here has taken over the well-known classification of temperament types as given by the French psychologist, Ribot, in his *Psychology of the Emotions*. This classification, while not widely accepted by modern psychologists, is historically interesting and becomes especially important in the light of the use Ashmun has made of it. The outline of temperaments and examples under each division as given by Ashmun follows:

### 1. The Active Temperament

(Dominant characteristic a natural and continually renewed tendency to action, life mostly directed outward, optimistic because person feels strong enough to struggle with obstacles and overcome them, taking pleasure in the struggle, enterprising, headlong, life-loving, with all emotions simple and uncomplicated.)

D'Artagnan.....	<i>The Three Musketeers</i>	Dumas
Prince Hal }	"Henry IV"	Shakespeare
Hotspur }		
Quentin Durward.....	<i>Quentin Durward</i>	Scott
Barry Lyndon.....	<i>Barry Lyndon</i>	Thackeray
Ivanhoe }	<i>Ivanhoe</i>	Scott
Front de Bœuf }		
David Balfour.....	<i>Kidnaped</i>	Stevenson
Henry Esmond.....	<i>Henry Esmond</i>	Thackeray
Richard Carvel.....	<i>Richard Carvel</i>	Churchill
Hugh Wynne.....	<i>Hugh Wynne, Free Quaker</i>	Mitchell
Hector }	<i>The Iliad</i>	Homer
Achilles }		
Odysseus.....	<i>The Odyssey</i>	Homer
Æneas.....	<i>The Æneid</i>	Virgil
Roland.....	"Chanson de Roland"	
Siegfried.....	"Nibelungen Lied"	
Sigurd.....	"Sigurd the Volsung"	Morris
Arthur.....	<i>Arthurian Legend</i>	
Beowulf.....	<i>Beowulf</i>	



The Cid.....	Legend of the Cid	
Hamilcar.....	<i>Salammbô</i>	Flaubert
Satan.....	Paradise Lost	Milton
Richard the Lion- hearted.....	<i>The Talisman</i>	Scott
Wilhelm Tell	"Wilhelm Tell"	Schiller

## 2. The Sensitive Temperament

### a. Sensitive-Humble

(Excessive sensibility, moderate intelligence, little or no energy, tender, dreamy, beauty-loving, shrinking, palpitating, self-distrustful, self-sacrificing.)

Cousin Pons.....	<i>Cousin Pons</i>	Balzac
Père Goriot.....	<i>Père Goriot</i>	Balzac

### b. Sensitive-Contemplative Temperament

(Thoughtful, speculative imagination, pondering every act and weighing all possible consequences.)

Brutus.....	"Julius Caesar"	Shakespeare
Hamlet.....	"Hamlet, Prince of Denmark"	Shakespeare
Buddha.....	<i>Light of Asia</i>	Arnold
Christian.....	<i>Pilgrim's Progress</i>	Bunyan
Job.....	Book of Job	
Silas Marner.....	<i>Silas Marner</i>	Eliot
Dr. Primrose.....	<i>The Vicar of Wake- field</i>	Goldsmith
Robert Elsmere.....	<i>Robert Elsmere</i>	Mrs. Humphrey Ward
Dr. Lavendar } John Ward }	<i>Old Chester Tales</i>	Deland

### c. Sensitive-Emotional Temperament

(Above all things the person of feeling, almost incapable of action so much are his powers concentrated on his own states of emotion.)

Werther.....	<i>The Sorrows of Werther</i>	Goethe
Lucy Snow.....	<i>Villette</i>	C. Brontë
Jane Eyre.....	<i>Jane Eyre</i>	C. Brontë
Corinne.....	<i>Corinne</i>	de Staël
Clarissa Harlow.....	<i>Clarissa Harlow</i>	Richardson
Juliet.....	"Romeo and Juliet"	Shakespeare

Ophelia.....	"Hamlet, Prince of Denmark"	Shakespeare
Desdemona.....	"Othello"	Shakespeare
Miranda.....	"The Tempest"	Shakespeare
Viola.....	"Twelfth Night"	Shakespeare
Cyrano.....	<i>Cyrano de Bergerac</i>	Rostand
Heathcliff.....	<i>Wuthering Heights</i>	E. Brontë
Rochester.....	<i>Jane Eyre</i>	C. Brontë
Arthur Dimmesdale....	<i>The Scarlet Letter</i>	Hawthorne
Claude Melnotte.....	<i>The Lady of Lyons</i>	Bulwer-Lytton
Nydia.....	<i>The Last Days of Pompeii</i>	Bulwer-Lytton
Evelina.....	<i>Evelina</i>	Burney
Pamela.....	<i>Pamela</i>	Richardson
Tess.....	<i>Tess of the D'Urbervilles</i>	Hardy
Janie Deans.....	<i>The Heart of Midlothian</i>	Scott
Hester Prynne.....	<i>The Scarlet Letter</i>	Hawthorne
Lindel.....	<i>The Story of An African Farm</i>	Olive Schreiner

### 3. The Apathetic Temperament

(Sluggish and unprepossessing, the pure type carries a suggestion of stupidity.)

Minoret-Levrault....	<i>Ursule Mirouet</i>	Balzac
Bovary.....	<i>Madame Bovary</i>	Flaubert
Dunstan Cass.....	<i>Silas Marner</i>	Eliot
Dombey.....	<i>Dombey and Son</i>	Dickens

### 4. The Amorphous Temperament

(Approaches the sensitive-emotional on the one hand and the apathetic on the other, so that there may be some difficulty in distinguishing. "Some other person, or failing that, the social environment, wills for them and acts through them. They are not voices but echoes.")

Gertrude.....	"Hamlet"	Shakespeare
Genevra Fanshawe....	<i>Villette</i>	C. Brontë
Amelia Sedley.....	<i>Vanity Fair</i>	Thackeray
Ursule Mirouet.....	<i>Ursule Mirouet</i>	Balzac
Cosette } .....	<i>Les Misérables</i>	Hugo
Marius }		
Stephen Guest.....	<i>The Mill on the Floss</i>	Eliot
Agnes Wickfield.....	<i>David Copperfield</i>	Dickens

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Hetty Sorrel.....	<i>Adam Bede</i>	Eliot
Lucie Manette.....	<i>A Tale of Two Cities</i>	Dickens
Lucy Deane.....	<i>The Mill on the Floss</i>	Eliot

## 5. The Unstable Temperament

(Capricious, uncertain, lacking in poise; sudden changes allow us no settled opinion of these persons.)

Tommie.....	<i>Sentimental Tommie</i>	Barrie
Sidney Carton.....	<i>A Tale of Two Cities</i>	Dickens
Steerforth.....	<i>David Copperfield</i>	Dickens
Peer Gynt.....	"Peer Gynt"	Ibsen
Godfrey Cass.....	<i>Silas Marner</i>	Eliot
Arthur Donnithorne.....	<i>Adam Bede</i>	Eliot
King Lear.....	"King Lear"	Shakespeare
Reuben.....	Genesis xlix, 4	

## 6. The Apathetic-Active Temperament

(A kind of composite having less than ordinary feeling. Cold-blooded, conscienceless but indefatigable, generally following one strong passion. A near approach to a morbid or unnatural type.)

Richelieu.....	<i>Richelieu</i>	Bulwer-Lytton
Richelieu.....	<i>Cinq Mars</i>	De Vigny
Iago.....	"Othello"	Shakespeare
Richard III.....	"Richard III"	Shakespeare
Goneril } .....	"King Lear"	Shakespeare
Regan }		
Becky Sharp.....	<i>Vanity Fair</i>	Thackeray
Tito Melema.....	<i>Romola</i>	Eliot
Madame LaFarge....	<i>A Tale of Two Cities</i>	Dickens
Roger Chillingworth..	<i>The Scarlet Letter</i>	Hawthorne
Madame Thenadier } .....	<i>Les Misérables</i>	Hugo
Javert }		
Fagin.....	<i>Oliver Twist</i>	Dickens

## 7. The Sensitive-Active Temperament

(These characters are strong, vital, active.)

Anna Karenina.....	<i>Anna Karenina</i>	Tolstoi
Lorna Doone.....	<i>Lorna Doone</i>	Blackmore
Richard Feverel.....	<i>The Ordeal of</i> <i>Richard Feverel</i>	Meredith
Jean Valjean.....	<i>Les Misérables</i>	Hugo

## 8. The Balanced Character

(Holding an even keel between emotion and thought, "acting uniformly well through a variety of trying scenes because all his actions are regulated by one steady principle." Icily regular, splendidly null, the perfect man and generally an unmitigated prig.)

Sir Charles Grandison	<i>Sir Charles Grandison</i>	Richardson
Daniel Deronda.....	<i>Daniel Deronda</i>	Eliot
John Halifax.....	<i>John Halifax, Gentleman</i>	Mulock
Adam Bede.....	<i>Adam Bede</i>	Eliot
Portia.....	"Merchant of Venice"	Shakespeare

## 9. Abnormal Types

Don Quixote.....	<i>Don Quixote</i>	Cervantes
Falstaff.....	"Merry Wives of Windsor"	Shakespeare
Quilp.....	<i>The Old Curiosity Shop</i>	Dickens

Most of us will find reason to disagree with some of these classifications. It is perhaps unfair to present the material thus baldly without giving the considerations which governed the author in making the analysis. The study, however, has intrinsic interest and possibly may be of pedagogical value, both in the teaching of psychology and in the teaching of literature.

Modern psychoanalytic studies of literature are tending more and more to stress clinical and psychoanalytic classification. A favorite device is an attempt to show that a given character or author exemplifies some mechanism, such as the Œdipus complex or some syndrome such as dementia præcox or manic-depressive insanity. For example, one recent study<sup>1</sup> considers Paul of Tarsus as an epileptic.

<sup>1</sup> Moxon, Cavendish, "Epileptic Traits in Paul of Tarsus," *Psychoanalytic Review*, vol. ix, 1922, pp. 60-66.

Another points out that Luther in his writings shows himself to be suffering from an anxiety neurosis.<sup>1</sup> Another cites Franz Molnar's<sup>2</sup> "Liliom" as representing a case of sadism. Another<sup>3</sup> presents the works of Lord Byron as examples of sublimation. This list might be continued at some length. Space forbids a discussion of each, interesting as many of them are. For purposes of illustration we may note three examples, one from MacCurdy, one from Kanner and one from Collins.

MacCurdy<sup>4</sup> in his analysis of "Hamlet" brings to bear the psychoanalytic point of view plus the knowledge of the trained psychiatrist. He sees in that play the working out of the incest motive, but he adds to this a diagnosis of Hamlet himself as a case of dementia præcox. This, as the name indicates, is a type of deterioration appearing, in theory at least, principally among younger patients. It is characterized by loss of pride and ambition, loosening of moral restraints, and the onset of general apathy and indifference. MacCurdy finds that these symptoms appear in the old Norse legends as well as in Shakespeare's version of "Hamlet." He points out that Hamlet's language is strange and broken, that he sees visions, suffers from doubts and hesitations, that

<sup>1</sup> Smith, P., "Luther's Early Development in the Light of Psychoanalysis," *American Journal of Psychology*, vol. xxiv, 1913, pp. 360-377.

<sup>2</sup> Gregory, Stragnell, "A Psychopathological Study of Franz Molnar's Liliom," *Psychoanalytic Review*, vol. ix, 1922, pp. 40-49.

<sup>3</sup> Cassity, J. H., "Psychopathological Glimpses of Lord Byron," *The Psychoanalytic Review*, vol. xii, October, 1925, pp. 397-413.

<sup>4</sup> MacCurdy, John T., "Concerning Hamlet and Orestes," *Journal of Abnormal Psychology*, vol. xiii, 1918-1919, p. 250.

he is seclusive, that he shows sex antagonism, that his conversation is outrageous. One may note these symptoms in every insane ward. If MacCurdy had been writing a clinical history he would have entered as the precipitating cause of the mental breakdown the death of the patient's father. He thinks from his own experience that it may be said that the severity of the dementia præcox roughly parallels the baldness with which the forbidden, incestuous theme appears in the patient's productions. From this it may be judged that Hamlet's case is fairly far advanced.

Kanner<sup>1</sup> is concerned with showing that certain features of Peer Gynt's conduct also conform to clinical concepts. Among the points that he enumerates is Peer Gynt's tendency to lying, which Kanner declares approaches the pathological. He notes that the hero is a daydreamer. He is subject to illusions, as when the fir tree that he hews becomes a churl that he fights. He is subject to delusions, especially to delusions of grandeur, familiar to every student of mental disorder. He has hallucinations, the source of the trolls, the boyg, and so on. He is egotistical, he is indifferent, he lacks ethical inhibitions, he wants insight, all significant from the point of view of a student of mental disorders. The diagnosis is dementia præcox, as in the case of Hamlet.

Collins<sup>2</sup> in the passage to be quoted attempts to

<sup>1</sup> Kanner, Leo. "A Psychiatric Study of Ibsen's Peer Gynt." *Journal of Abnormal Psychology*, vol. xix, 1924-25, p. 373.

<sup>2</sup> Collins, Joseph, *The Doctor Looks at Biography*, New York, George H. Doran Co., 1925. Other interesting illustrations are to be found in *Taking the Literary Pulse*, *The Doctor Looks at Literature*, *The Doctor Looks at Love and Life*, by the same author.



classify a writer rather than a fictional figure. In dealing with a biography of William Blake, he shows that Blake exhibited most of the marks of the mental disease known as manic-depressive insanity. This disorder is characterized by emotional cycles, a period of intense activity being followed by a time of profound apathy. Collins in diagnosing Blake's case says:

I contend that anyone who will read even the summaries of the chapters of Mr. Bruce's book will need no further evidence to be convinced that William Blake, who had "everywhere the poet's firm persuasion that things were so, who stuck to a choice that was contemned, to a taste that was laughed at"; who was as immune to ridicule as a tortoise is to admonition; who spoke his mind on all occasions even when it clashed with authority; who, like the master potter, knew, knew, knew; who swung backward and forward from high exaltation to pits of melancholy; who listened to messengers from heaven daily and nightly and composed under their dictation a poem which he considered the grandest that this world contained, even though he was never able to find one purchaser; who received Richard Cœur-de-Lion at a quarter past twelve, midnight, and painted his portrait though he had been dead several centuries; who displayed a persecutory state of mind when he was depressed, and a self-sufficiency that brooked no curbing when he was exalted; who took no thought for the morrow and was as unable to take care of himself as a two-year-old child, was of manic-depressive temperament. That he escaped being sent to Bethlehem Hospital, vulgarly called Bedlam, entitles him to our belated congratulations.<sup>1</sup>

<sup>1</sup> Quotation by special permission of publisher.

## PSYCHOLOGY AND INTERPRETATIONS

As soon as one has classified one is frequently tempted to try to use this classification as a basis of interpretation. Thus having classified a character as a case of dementia præcox, we may proceed from that to show how our classification makes clear some things in his conduct which are otherwise mysterious. A different classification might lead to a different interpretation. An instructive example appears in a study of "Hamlet" by Jones.<sup>1</sup>

Some one has said that "Hamlet is the most fascinating character and the most inexhaustible in all imaginative literature." Volumes of criticism, analysis, and interpretation have been written about this work. Interest has been especially aroused by the great central mystery of the play, the mystery which has sometimes been called the Sphinx of modern literature, the problem of Hamlet's tardiness in avenging his father's murder. It is with this problem that Jones is concerned.

Jones maintains that Hamlet presents an excellent example of the Œdipus complex as a source of motivation. He shows that there is a real mystery behind Hamlet's procrastination in seeking revenge, and one by one discusses and to his own satisfaction eliminates the suggestions which have been put forth in explanation.

Many of these explanations have been mere ex-

<sup>1</sup> Jones, Ernest, *Essays in Applied Psycho-Analysis*, chap. i, "A Psycho-Analytic Study of Hamlet." London, The International Psycho-Analytical Press, 1923.

travagant speculations; as, for example, the theory that Hamlet was really a woman wrongly brought up as a man. One widely held view—that of Goethe—maintains that Hamlet was temperamentally incapable of decisive action, representing a case of intelligence over-developed and activity under-developed. Against this Jones points out that in certain spheres Hamlet is normally active and decisive.

A second theory holds that Hamlet's delay was simply due to the difficulty of the task. According to this view it was a delicate problem to convict his stepfather, Claudius, of the crime of fratricide. Hamlet delayed because he did not know how to accomplish his purpose. Against this Jones argues that evidence in the play indicates that the people were certainly not strongly in favor of Claudius and were, in fact, very ready to turn away from him. Hamlet, moreover, never indicates that he is especially concerned with the externals of the problem, but very surely says that the trouble is within himself.

A third point of view stresses the difficulty of Hamlet's securing a punishment of his uncle without disgracing his mother. Jones thinks that this is probably not especially important and concludes that the motive of Hamlet's delay must be found in something in the past which makes action distasteful. Hamlet at heart does not want to punish his uncle, although he has very powerful motives for doing so. It has been argued in this connection that the reason for his hesitancy was an idea that revenge was wrong; Hamlet, however, does not say anything to substan-

tiate this idea. In fact, Jones concludes that Hamlet himself did not know the source of the conflict.

Developing this idea of a hidden conflict, Jones concludes that Shakespeare also did not recognize the nature of the conflict and that it is not recognized by the audience. From this he concludes that "We thus reach the apparent paradox that the hero, the poet, and the audience are all profoundly moved by feelings due to a conflict of the source of which they are unaware."

Jones then very cleverly develops the picture of Hamlet's inner struggle, attributing to this conflict the abulia, the depression, the occasional hopelessness, the desire for suicide, the dread of death, the self-accusation, the bad dreams. He links all of these symptoms with the Freudian theory of repression and declares that the source of this suppressed negative striving against revenge is to be found in his inner conflicts.

Jones next notes that of all his uncle's crimes, Hamlet is most bitter against the incest with Hamlet's mother. He advances the hypothesis that Hamlet had in childhood resented his father's relations with the mother (the *Œdipus* idea) and had found it necessary to repress secret wishes for his father's death. The present situation calls up these old conflicts, Hamlet finding that his uncle had actually accomplished what he would like to have accomplished. Jones pictures his attitude as that of "the jealous detestation of one evildoer towards his

successful fellow." The conflict of these ideas he offers as the reason for Hamlet's delay.

Jones's next concern is with discovering what relationship the play as written by Shakespeare bears to the sources from which the idea was drawn. After discussing the old Norse legends and also the earlier versions of the work he thinks he shows that the main elements of Hamlet's struggle mirror an experience in Shakespeare's own life. He points out that Shakespeare's father had died a short time before the writing of the play and thinks that this is significant. He concludes that the play reflects Shakespeare's concept of what *he* would have done and appeals to audiences the world over because they see in it what *they* would have done in similar circumstances.

We have introduced this psychoanalytic study merely as an example and not for critical purposes. It should be noted that in previous paragraphs we have expressed disapproval of some of the concepts here utilized and see no reason to change our opinion because of the analysis just given from Jones.

#### THE STATISTICAL ANALYSIS OF LITERARY PRODUCTS

It is one of the fundamental functions of science to *measure* as well as to collect and classify and explain. In the discussion just finished we have been dealing with analysis and explanation largely on the basis of classifications made. We now turn to at-



tempts to subject writers and their works to statistical study and measurement.

As an interest device we may introduce this discussion by an attack upon a misuse of the statistical approach made by an unscientific investigator. The offending example is to be found in a recent volume by Hale<sup>1</sup> which is largely devoted to a criticism of the literary style, character, and social habits of Woodrow Wilson. Hale, although he does not say so directly, conveys the impression that he was among the number of one-time intimates of the late president who had the distinction of being kicked out by the touchy master. The book is quite apparently the expression of a wounded *amour propre* and represents a somewhat misguided attempt to show by many devices, including the statistical, that Wilson was hopelessly mediocre as a writer and as a speaker.

As a concrete example of Hale's method we may cite his "investigation" of Wilson's lamentable distaste for verbs, those bearers of action, and his almost feminine predilection for thought-encumbering adjectives. Hale selected a paragraph of 108 words from a magazine article written by "Mr. Thomas W. Wilson," one of the earliest efforts of the future President. In these 108 words Hale discovered only one pure verb and thirty adjectives. He then proceeded to pull down volumes at random from his shelves and to take samples of 108 words each from

<sup>1</sup> Hale, William Bayard, *The Story of a Style*. New York, B. W. Huebsch, Inc., 1920.



the masters of English prose. As result of his labors he gives the following table.

TABLE XVIII

<i>Author</i>	<i>Verbs</i>	<i>Adjectives</i>
Wilson.....	1	30
Ruskin.....	16	7
Carlyle.....	12	4
Macaulay.....	11	2
Stevenson.....	14	3
Irving.....	12	8
Poe.....	12	5
Shakespeare.....	14	9
Scott.....	11	8
Dickens.....	16	6
Hardy.....	14	1
Shaw.....	14	4
Clemens.....	13	3
Hewlett.....	13	3
Gibbon.....	9	8
Bazin.....	18	3
Sienkiewicz.....	11	1
Stendahl.....	15	2
Maeterlinck.....	10	0
Rousseau.....	14	6
Amiel.....	9	7

To the uninitiated there is a certain air of authority in figures of this kind. Wilson's lone verb among those thirty swaggering adjectives stands out like the proverbial sore thumb. If one does not have the temerity to question Hale's statistical procedure, and especially if one happens to be emotionally thrilled

at finding anything derogatory to the man who tried to get us into the League of Nations, he may well be carried away by this proof of Wilson's eccentricity. To the scientifically-minded individual, on the other hand, Hale's figures appear a little too convincing and he is likely to be inspired to turn to later writings in order to check up what is obviously an incomplete sampling of Wilson's works.

Out of curiosity such a check-up was made, and with the following results. In five random selections of approximately 108 words each,<sup>1</sup> from different books and speeches by Wilson, we find seven verbs and three adjectives, twelve verbs and nine adjectives, ten verbs and nine adjectives, thirteen verbs and seven adjectives, nine verbs and five adjectives; on the average this is about ten verbs and six adjectives out of 108 words, a figure which is not in any way exceptional as compared with data given for other writers by Hale. We do not offer these figures as representative of Wilson's style of writing; a truly scientific study would involve taking hundreds of samples and a more rigorous determination of what

<sup>1</sup> The extracts chosen in their respective order are as follows: *A History of the American People*. New York, Harper & Brothers, Documentary edition, 1918; first published in 1902. Vol. vii, p. 41, 109 words. *Ibid.*, vol. v, p. 28, "It was but human nature . . . otherwise," 108 words. *Congressional Government*, Houghton Mifflin Co., first published in 1885, p. 157, "The usual practice . . . that committee," 113 words. *Constitutional Government in the United States*, Columbia University Press, 1917, p. 5, "There are many, many analogies . . . you have," 108 words. Address to the Graduating Class of the U. S. Naval Academy, June 5, 1914, found in *President Wilson's Foreign Policy*, edited by James Brown Scott, Oxford University Press, 1918, p. 53, "I challenge you youngsters . . . disgrace," 108 words.

should be included under the heading of pure verbs and adjectives, all of which is beyond the limits of our present task. We are here interested only in showing a general technique and in showing that Hale has applied this technique in a misleading fashion.

To digress for a moment, it is interesting to note other attempts by Hale to prove his points by means of tabulations of the frequency of occurrence of various phrases and locutions. He shows in fairly convincing fashion that in his book, *George Washington*, Wilson indulged, perhaps immoderately, in the use of archaic forms such as "'Tis," "'Twas," "'Twould," that he repeated frequently certain words such as "counsel" and "process," and that he was addicted to the use of superfluous adjectives. Taking the words "counsel," "process," "vision," and "hearts," he cites enough instances to convince us that Wilson fell into the lazy habit of using these excellent words indiscriminately. Hale argues from this that Wilson either suffered from an inner conflict which inhibited vigorous thinking or that his repeated use of these verbal crutches indicated an anæmic and fatigued mind. Some color is lent to his argument by the facts of Wilson's physical breakdown. His figures and tabulations would be more convincing if they showed clearly an increase of the symptoms of mental weakness toward the end of Wilson's public career.

Hale's work is interesting to us because it attempts to reduce literary style to a mathematical basis and

to deduce from the results something with regard to the character of the writer. His work suffers because of his unwillingness to go all the way and make a thoroughgoing statistical study. He is suggestive but not scientifically sound. His obvious bias invalidates his labored conclusions.

#### OTHER STATISTICAL STUDIES OF STYLE

A more workmanlike study was made by Lay,<sup>1</sup> who in 1898 made a count of the number of the various consonants employed by different authors. Analyzing the results from careful and elaborate counts from many different works of the authors dealt with, he arrived at the percentage figures given in Table XIX. This table shows, for example, that, of all the consonants, Tennyson preferred the liquids such as l, m, n, r, and ng. Tennyson's figure, 38.6 per cent, will be noted as the highest for this group; Browning's figure, 33.1 per cent, as the lowest. Browning on the other hand, leads in the use of the mutes, p and b, with 6.85 per cent, while Swinburne is lowest with only 4.1 per cent. Swinburne seems to have reveled in the sound of the wind and we find him using many sibilants and fricatives. On the basis of his study, Lay argues that Tennyson had a greater auditory mental imagery and infers the possession of a less sensitive "ear" by poets who make much use of the rough consonants.

<sup>1</sup> Lay, W., "Mental Imagery." *Psychological Review Monographs*, no. 7, vol. ii, 1897-99.

TABLE XIX

(From Lay)

Author	Liquid L, M, N, R, NG	Mutes			Sibilants SH, S, Z, D, Dʒ	Fricatives V, F, TH	Semi-Vowels W, WH, ʃ, H	Number
		P, B	T, D	K, G				
Green . . . . .	34.35	6.00	15.95	6.05	14.65	14.75	6.80	2,000
Burke . . . . .	37.32	6.56	18.34	5.20	15.92	13.12	5.46	5,000
Tennyson . . .	38.60	5.10	17.80	4.45	11.87	13.70	7.60	2,000
Browning . . .	33.10	6.85	16.50	5.85	17.05	12.05	7.25	2,000
Swinburne . .	37.25	4.10	16.90	3.10	14.15	16.90	6.85	2,000
Shakespeare ("Venus and Adonis")	34.05	6.35	17.80	5.45	15.60	11.25	8.80	2,000
Shakespeare ("Othello")	34.22	5.74	15.28	4.94	15.30	12.34	8.98	5,000
Shelley . . . .	37.06	5.10	17.68	4.52	14.10	12.30	7.84	5,000
								25,000

Givler<sup>1</sup> attempted to determine statistically the frequency of various speech elements as used by English writers. He studied poets from Sidney to Rossetti and by careful tabulation showed that on the average they used about ten accented to eight unac-

<sup>1</sup> Givler, Robert C., "The Psycho-physiological Effects of the Elements of Speech in Relation to Poetry," *Psychological Monographs*, vol. xix, no. 2, whole no. 82, April, 1915, pp. 1-132.

cented sounds. Shelley, Browning, and Swinburne were exceptions, the ratio for each being nearly ten to ten. He found that Tennyson and Swinburne deviated most from the average use of the sounds and that Milton was nearest to the average.

Downey<sup>1</sup> argued that one might expect an author's style to be much influenced by his imagery type. That is, some individuals have a predisposition for visual images; others experience extremely vivid auditory imagery or olfactory imagery; and so on. Downey thought that if selections from two different authors consistently aroused an unequal number of images in the minds of a group of readers, it might be inferred that these writers differed in their own equipment as to imagery. She argued, furthermore, that the characteristic imagery type of a given writer might be inferred by the relative frequency with which his writings aroused different types of imagery in the reader.

The technique of Downey's investigation may be better understood if we consider the materials with which she worked. She selected one hundred fragments from the writings of a number of poets. For example, the following fragment from Shelley was used:

And the hyacinth purple, and white, and blue,  
Which flung from its bells a sweet peal anew  
Of music so delicate, soft, and intense,  
It was felt like an odour within the sense.

<sup>1</sup> Downey, June E. "The Imaginal Reaction to Poetry," Bulletin No. 2, University of Wyoming, Department of Psychology, 1911.



Probably for most people the reading of this stanza arouses fairly definite visual imagery and perhaps some auditory and olfactory. Its effect may be compared with that of the following from Keats:

Where their own groans  
They felt but heard not, for the solid roar  
Of thunderous waterfalls and torrents hoarse.

It will be noted that auditory imagery prevails in this second illustration.

Downey selected her hundred fragments from different authors as follows: Blake, thirteen (57 lines); Poe, twenty-six (80 lines); Shelley, twenty-five (97 lines); Keats, twenty-three (78 lines), and Swinburne, thirteen (59 lines).

The fragments were not marked with the names of the poets and in general were not recognized by the people taking part in the experiment. Downey had her subjects report on the kinds of imagery aroused by each of the fragments. She estimated the number of images of each kind which each fragment *might* have suggested and compared this figure with the number actually reported. This gave the per cent of successful suggestions as shown in Table XX.

Consideration of the table shows that Poe gave the highest number of successful auditory suggestions; Shelley gave the highest number of successful olfactory suggestions; Keats the largest number of cutaneous images; and Poe the largest number of successful organic suggestions. It is a literary com-

TABLE XX

(Adapted from Downey)

Percentages of Successful Suggestions

Poet	Audi- tory	Olfac- tory	Cuta- neous	Organic and Pain
Blake . . . . .	42.2	. . . .	45.8	23.6
Shelley . . . . .	45.6	43.6	25	34.7
Keats . . . . .	43	33.3	52.4	30.9
Swinburne . . .	32	33.3	36.7	26.4
Poe . . . . .	51.6	30.6	33.3	36.3

monplace that Shelley abounds in references to odor and Keats in cutaneous suggestions. It is interesting to note from the present experimental evidence that these poets were skillful in their use of their favorite material.

Downey made separate tabulations of the number of visual images and found that Poe, Shelley, and Keats excelled Swinburne and Blake. Commenting on the vividness of visual imagery she says:

Relative to the vividness of the visual imagery, Poe and Shelley excel as shown by the following estimate. The number of fragments marked as giving either very vivid or moderately vivid visual imagery by the Chicago group were summarized with the following results: Poe's percentage per fragment 2.15 or, per line, .7; Shelley's percentage per fragment, 2.08, per

line, .5; Keats' per fragment, 1.34, per line, .43; Swinburne's per fragment, 1.38, per line, .03; Blake's per fragment, 1.69, per line, .38. Put in another way, the preeminence of Shelley and Poe in this respect is shown by the fact that they furnish 57 per cent of the vivid and moderately vivid visual images, although in proportion of whole number of lines to the total number they constitute only 48 per cent.

These three investigations by Lay, Givler, and Downey give but an inadequate idea of the possibilities inherent in this type of literary analysis. It may be prophesied that the next decade will witness an increasing number of such studies, designed to throw more light on the mental processes of writers through the medium of the precise statistical methods which are becoming the vogue in other psychological fields.<sup>1</sup>

<sup>1</sup> Since the above was written Rickert's interesting and suggestive volume on *New Methods for the Study of Literature* has been issued by the University of Chicago Press. In this book she shows how methods of measurement of the effect may be applied in studies of imagery, words, thought patterns, rhythm, tone patterns, visual devices, and so on. The book deserves careful consideration in any study of the psychology of the effect.

## CHAPTER TEN

### THE PSYCHOLOGY OF THE CREATIVE IMAGINATION

A WRITER on the creative imagination should announce his platform at the start. There are on this subject several schools of thought, appealing to widely differing tastes, and it is only fair that the reader know in advance what kind of dish is to be served.

There is, for example, what may be called the soft-boiled attitude, well represented by Wilkinson in her book, *The Way of the Makers*. This work is best described by the good colloquial word, soppy. It appeals to those gushing souls who believe that poets are God's gifted speaking tubes. For these emotionalist writers are psychological prodigies who hear smells and see sounds. They get their best ideas direct from the cosmic consciousness and the process of transposing these ideas to paper involves a mystical madness, a fine rolling of eyes in frenzy.

For this school of thought any attempt at understanding the creative process, if it presumes to offer a common-sense or comprehensible explanation, is anathema. In *The Way of the Makers*, for example, there is a caustic criticism of Conrad Aiken's explanation of poetic inspiration in terms of association of ideas. For Wilkinson this is a profanation of the "spiritual life eternal, invincible and ravishingly

sweet, a life that can, by discipline of the will and by the high longing called aspiration, be brought into our consciousness and held there for a little while, or be wrought into works of beauty that the world is loath to give up.”<sup>1</sup> She crushingly remarks that God is very old and this new psychology is very new and therefore more fashionable. “One would think that God might constitute an hypothesis for consideration. He is needed even in that small way.”

At the other extreme we have those tough-minded, matter-of-fact individuals who find the process of literary creation no more romantic than any other of our mental activities. Impatient of the enormous amount of twaddle that has been written about “inspiration,” “divine afflatus,” and “the Muse,” they attempt a coldly scientific description. “. . . the creative state of mind is not different from other minds or from other states of mind,” says Jacob<sup>2</sup> in an article on “The Psychology of Poetic Talent.” And in another connection he says: “Poetry as a physical phenomenon appearing in a concrete, physical world is to that extent within the domain of physical science. . . .”

In the present chapter we shall attempt a sane medium between these extremes. There is much that we do not understand and probably never can understand about the acts of the creative imagination. Because we do not understand a thing, is how-

<sup>1</sup>Wilkinson, Marguerite, *The Way of the Makers*, New York, The Macmillan Company, 1925.

<sup>2</sup>Jacob, Cary F., “The Psychology of Poetic Talent,” *The Journal of Abnormal Psychology*, 1922, vol. xvii, no. 3, pp. 231-253.

ever, no reason for making a mystery of it or rhapsodizing over it. There are certain features of imagination that are subject to analysis, and it seems possible that a proper appreciation of these may make for better direction and control and development of the writer's native talents. Such a practical goal is the only excuse for adding this essay to the already extensive literature on the psychology of invention.

#### THE IMAGINATION DOES NOT CREATE ITS MATERIALS

The results of a little experiment will afford a profitable starting point for a study of the process of creative imagination. A group of fiction-writers who were studying this subject was given the following instructions: "Here are pencils and paper which you are to use in the creation of an original drawing. Your lack of talent in drawing will not be a handicap, for your product will be judged solely in terms of its originality. The subject of this drawing is to be a *gryphon*. This is a nonsense word and may mean anything that you choose. Let your imagination run wild. You are to draw a picture of a *gryphon*, making it unlike anything you have ever seen or heard of, absolutely new and unique."

These instructions produced some strange and fantastic drawings. Certainly such curious objects never were on land or sea. Surely we have here a real example of the creative imagination at work.

A few hurried calculations, however, reveal an interesting feature of these drawings. Considering



a large group, about 60 per cent of them make use of eyes. A slightly greater per cent make use of arms and legs. About 15 per cent make use of triangles, squares, or other common geometric figures.

Now nothing could be more commonplace, more seen-on-every-side, than eyes and arms and legs and circles and triangles. How is it that these people, truly trying to produce something absolutely new, fall back upon such stereotyped objects?

The answer is, of course, that the creative imagination does not and cannot create its materials, but merely sets these materials in new or rare combinations. This kind of imagination is above everything else a combining activity, assembling materials from the ends of the earth and putting them together according to certain rules which we shall study presently.

The point just made seems simple and common-sense, yet it runs quite contrary to the popular view of the imagination. For most people the imagination is a kind of free agent, bound by no laws or restrictions. Nothing could be farther from the truth. The most brilliant imagination cannot create a single new element. It must start with a stock of elements, great or small, and from these elements devise pleasing and useful relations. It is as if one were given sets of building blocks with which to construct as many and as varied patterns as possible.

If our argument thus far is true, there are two and only two ways in which we can improve our tech-

nique of imaginative construction. We may, in the first place, acquire a greater store of experiences, a greater supply of these building blocks. We can, in the second place, improve our technique of fitting the blocks together, acquiring skill in discovering new and pleasing combinations. Practical suggestions as to methods which we may employ in effecting these two kinds of improvement will be discussed later in this chapter.<sup>1</sup>

#### THE MOTIVES OF CREATION

The *Gryphon* experiment reveals certain facts about the process of creative imagination. A somewhat similar experiment by Royce<sup>2</sup> adds further details. Royce asked his subjects to draw rapidly original designs to consist of combinations of straight or curved lines, made without lifting the pencil from the paper. After they had made several such designs, which usually were rather feeble and commonplace, he showed them a prepared series which was to be used as an example of what not to do. That is, he asked his collaborators to draw designs as *unlike* the models as possible. He found that the resultant work was very much more elaborate and striking than the first series. He concluded that one important

<sup>1</sup> It is interesting to find confirmation of these suggestions in a recent article entitled, "How to Become an Author," appearing in the *Bookman* of March, 1927. In this article the advice of a number of successful writers is presented, and in practically every case they stress experience and practice.

<sup>2</sup> Royce, Josiah, "The Psychology of Invention," *Psychological Review*, 1898, vol. v, p. 113.

factor in the development of inventions is the encouragement of individuality. He says:

" . . . I have been much struck with the effectiveness in exciting originality of a certain motive which I may call the motive of being in a decidedly sharp contrast with one's social environment. This I should call *one* typical motive of all individualism. The child that desires to show himself off, the successful wit, the adept at repartee, the ambitious young poet, and in general a man of mark in an age of great individualism, all illustrate the psychological effectiveness, within certain limits, of the mere desire to make a contrast."

This observation is important for it takes us to the very heart of the act of creation, the problem of motive. Royce says in substance that the desire for superiority, the motive of mastery, is fundamental. He points out that in the life of any civilized stock there are periods of creative activity, followed by periods of stagnation. He thinks that in these creative periods the force of social stimulation, the urge to surpass rivals, may result in widespread release of energies. "In a poetic age, poetry is invented by second-rate poets; and some of it is very good poetry." Ribot quotes Groos to the same effect: "The artist does not create of the simple pleasure of creating, but in order that he may behold a mastery over other minds."<sup>1</sup>

Many writers, especially poets, will dissent from

<sup>1</sup> Ribot, Th., *Essay on the Creative Imagination*, tr. by Baron, p. 35. Chicago, The Open Court Publishing Co., 1906.

the point of view just presented. It is a part of the hocus-pocus of almost every profession to claim exemption from the ordinary, unromantic sources of motivation. Poets like to feel that they are driven on by all sorts of delightfully mysterious and out-of-the-ordinary energies. It is good fun and good business to keep up the pose and for many suggestible souls it becomes more than a pose and is held as an honest belief. "The Voice speaks; I count for nothing," says one writer, with all sincerity. The fact remains, however, that poets, prophets, artists, and composers are as much under the urge to make a showing and to surpass their rivals as are other men. The "artistic temperament" is probably in many cases nothing more than an attention-getting device.

#### OTHER MOTIVES OF THE IMAGINATION

The desire for mastery is only one in the complex set of forces behind creative imagination. A complete picture would show the artist or the writer spurred on in ways that even the individual himself little suspects. For all creation, however spontaneous, freely uprushing it may seem, starts from a want, a desire, an urge. The authorities—and there are many of them—agree on this point.

Kempf may be cited as representing the almost purely physiological theory of artistic creation. For him the organism is driven by wants or "affects." An affect produces a state of unrest, anxiety, discomfort, which is neutralized by the acquisition of adequate

stimuli. "When these stimuli cannot be extracted from the environment," says Kempf,<sup>1</sup> "images or symbols are substituted which are identified by association of similarity or contiguity with the desired reality. In proportion as they approach the reality they give comfort and affective rest. This is the affective process that determines the behavior of savages, girls, boys, all men and women. It is the affective principle that creates art. Rodin's *le Penseur* and *Pygmalion* and *Galatea*, as well as Shaw's *Pygmalion* may be recognized as reproductions of themselves."

Kirkpatrick<sup>2</sup> says the same thing in more familiar terms when he remarks that the person with many unsatisfied longings is always the possessor of an active imagination. Necessity—we may call it an affect if we wish—has always been recognized as the mother of invention. Downey<sup>3</sup> says bluntly that much of great literature is obviously compensatory make-believe, universal in appeal because it voices universal desires and suggests their fulfillment. Jacob<sup>4</sup> thinks that "The artist is usually by temperament unfitted to enjoy even a tolerable degree of satisfaction in the world as it exists," and is thus led to create in imagination a more congenial environment. Pres-

<sup>1</sup> Kempf, Edward J. *The Autonomic Functions and the Personality*. New York and Washington, Nervous and Mental Diseases Publishing Co., 1918. P. 128.

<sup>2</sup> Kirkpatrick, E. A. *Imagination and Its Place in Education*. New York, Ginn & Company, 1920.

<sup>3</sup> Slosson, Edwin E., and Downey, June E. *Plots and Personalities*, p. 176. New York, The Century Company, 1922.

<sup>4</sup> Jacob, Cary F., *Opus. cit.*



cott <sup>1</sup> made a careful study of the subjects of poetry and finds that they are all in principle alike. "In each case there is, as we confront it, a mental insufficiency—that is, an inability to encompass the subject by means of reasoning." He thinks also that the greatest poetry is inspired by the highest and most nearly universal desires. For him one essential of the creative act is what he calls poetic madness, which he says is a high degree of emotional disturbance arising from unsatisfied desires.

We may here return to the point of view advanced in earlier chapters, that human behavior is best visualized as a succession of states in which wants, desires, urges, instincts, are frustrated with resultant increased activity and the adoption of substitute adjustments. This process seems basic to invention, as when an individual desires an end which is finally realized by means of some mechanical device. We also find it in the act of selecting a vocation, as in the case of a man who wishes to be a prize fighter but is prevented by physical inferiority and becomes a preacher or a tailor or an artist. We find the same mechanism in the day dream and the night dream. We find it in the poetic composition, in the play, the novel. Sometimes the individual is conscious of the nature of his adjustment, but frequently he is not. Ordinarily in the dream, in reverie, and in artistic production there is little clear recognition of the sources of the behavior.

<sup>1</sup> Prescott, Frederick Clarke. *The Poetic Mind*, p. 80. New York, The Macmillan Company, 1922.



## THE CREATIVE "DRIVE"

One aspect of the motivation of creative work that has been of interest from earliest times is the state of intense concentration which frequently seems to possess the artist and the writer once the work is initiated. To an age whose prevailing theory of human motivation was animistic it seemed as if the person in the creative fit were possessed of a spirit, a muse. In introspective reports of the state the poets especially were apt to stress the effortless nature of their composition, their feeling of being impelled by a power outside, of being counseled by supernatural voices.

Unfortunately, other workmen, less introspective or communicative than the poets, have failed to report that they too have this same experience in connection with their work. It is true, however, that almost everyone who has managed to become completely interested in a task must have known in some degree the feeling of effortless focusing on the work in hand, the temporary narrowing of the field of attention, and the satisfying sense of masterful accomplishment. Good mechanics know the state as well as good poets. A thoroughgoing attempt at a scientific explanation would be tedious and beyond our present purpose. In general it is best thought of as what Woodworth calls a "drive"—a chain of reaction systems in temporary control of the organism and directing its activity toward certain narrowly limited

goals.<sup>1</sup> It is not ordinarily subject to voluntary initiation, though with practice one learns that it is best invited by setting to work briskly in the environment and with the motor adjustments that have customarily prevailed when the "drive" was active. Herein is embodied the best possible advice to the writer who has trouble in getting himself "inspired."

#### TYPES OF IMAGINATION

So much for the motivation of the acts of the imagination. Our next important consideration is the nature of the process that goes on when one is imagining. We shall do well to begin this study by attempting a more precise idea of what we mean by imagination.

Kirkpatrick<sup>2</sup> speaks of three kinds of imagination. The first may be called *reproductive*, or that type which resembles memory, the image being but a carbon copy of the original experience. It may be valuable in describing accurately one's past experience, as in biography. In the second type, or the *constructive* imagination, the individual calls up images according to some usual arrangement or according to description. This type is active when we understand and appreciate the productions of others.

<sup>1</sup> It has sometimes been spoken of as the creative instinct, but the term is unfortunate, since we seem to have here merely a general mechanism rather than the more specific reaction system ordinarily associated with instinct.

<sup>2</sup> Kirkpatrick, E. A. *Imagination and Its Place in Education*. New York, Ginn & Company, 1920.

Lastly, we have the *creative* imagination, in which one pictures according to his wants and purposes, evolves imaginative descriptions, plots and narratives. In all three cases the materials are derived from the sensory experience of the individual. Basically the three are but different aspects of the same process and are involved to differing degrees in most of our mental life.

In the creative imagination, with which we are here interested, the most significant feature is the possibility of the simultaneous reinstatement of images which have been but feebly or remotely associated in the past. If every image came to mind only in association with its everyday companions, its bosom friends, so to speak, there would not be much variety in our mental life. Chair would make us think of table, and table would make us think of eat, and eat would make us think of sleep, and sleep would make us think of bed, and we should probably end up unromantically enough by going to bed and to sleep—a dreamless sleep.

But occasionally when we are intoxicated, or when we are in love, or when we are inspired, or when we are in a reverie, or when some other of the thousand controlling factors has conspired to upset our ordinary, surface association, then images come crowding to mind in strange groupings. Then the image of a chair may take on the most bizarre, fantastic, or poetic characteristics. It may not be a chair at all, but a symbol of man's desire for active rest. It may be a throne or a baby's high-chair, or a magic wishing-

chair. It may be a dramatic chair that gets woven into thrilling scenes of battle, murder, and sudden death.

If we wish to put this into psychological terms we must think of the image, chair, as being actually associated by daily experience with hundreds, and potentially to be associated with thousands of other images through the aid of intermediate connecting links. Some of these associations, such as chair-table, are very strong; others are so weak that the chance of their normally occurring is not one in millions. Now occasionally in all individuals, and very frequently in some individuals, through variations in the openness of neural connections in the brain, or for other reasons beyond our present understanding, it happens that the normal, habitual associations are in abeyance, and new, spontaneous, "imaginative" associations occur. Creative genius consists precisely in the desire and the facility for thus grouping images in new ways, for making "strange combinations out of common things," as Shelley expresses it.

It is not enough, however, that the combinations be novel. There must be some guiding thread, some unifying emotion or concept or trend. Mere bizarre chains of images written down do not make literature, else we would need only to record our dreams. The imaginative creation must be shaped according to certain laws or precedents, must meet generally accepted standards of value. Herein lies the knack of creative thought. One must follow the pattern, but vary the stitch.

## RIBOT ON THE IMAGINATION

Many psychologists have presented this view of the imagination. One of the earliest and one of the best works on the subject is that of Ribot,<sup>1</sup> *The Creative Imagination*. He points out that the type of memory which reproduces the total situation with all of its elements unchanged is unfavorable to creation. He speaks of the old "laws of association," the laws of contiguity and resemblance, and finds that the second type of association is the principal source of the material of the creative imagination. Of one kind of association by resemblance, that by analogy, he says: "The essential, fundamental element of the creative imagination in the intellectual sphere is the capacity for thinking by analogy; that is, by partial and often accidental resemblances." Thus certain savages called a book "mussel" because it opens and shuts like a shellfish. Thinking of this kind is plentiful among savages, children, and in imaginative writing. Two common forms are personification and transformation, the latter including the production of metaphors, allegories, symbols, and so forth.

## INSPIRATION

"You feel a little electric shock striking you in the head, seizing your heart at the same time—that is the moment of genius," said Buffon.<sup>2</sup> Literature

<sup>1</sup> *Op. cit.*

<sup>2</sup> Quoted by Ribot, *op. cit.*, p. 52.



is replete with similar quotations and illustrations testifying to the occurrence of periods of sudden activity in which the creative worker seems miraculously endowed with extraordinary insight. Most of the superstitions of writers cluster around this phenomenon.

Introspective accounts of this process are not very trustworthy, both because the people who experience these "moments" are usually not good scientific observers and because the accompanying mental state is not favorable to close self-observation. With this caution, we may consider a typical example, that of the discovery of the *fonctions Fuchsiennes* by Henri Poincaré:<sup>1</sup>

One evening, contrary to my habit, I drank some black coffee. I could not sleep; ideas crowded in my mind; I felt them knocking against one another, until two of them hung together, as it were, and formed a stable combination. In the morning I had established the existence of a class of *fonctions Fuchsiennes*. There remained merely to set down the results and that was done in a few hours.

Now *where* did this unexpected and beneficent idea of Poincaré's come from? An older philosophy would have said that it was planted in his mind by his good demon. The popular psychology of today has substituted the unconscious for the good demon and would say that something in the thinker's state allowed him to communicate directly with the "great

<sup>1</sup>Quoted by Leuba, J. H., "Freudian Psychology and Scientific Inspiration," *Psychological Review*, 1924, vol. xxxi, pp. 184-192.



universal storehouse of ideas." Prescott <sup>1</sup> has written a whole book to show that poets are simply fortunate individuals who are adept in assuming the reverie-like state which he says is best for drawing from this deeper unconscious mind.

It would seem that we might be more in the way of getting some practical control of these moments of inspiration if we could discover a less mystical and poetical explanation of their nature. To refer them to the activity of the unconscious mind is not very helpful, even if the existence of such a mind were fully demonstrated.

A promising start toward a more helpful and understandable explanation may be made by considering data which have been derived from laboratory investigation of the rate of improvement in learning some complex act, such as typewriting. James long ago made the paradoxical statement that we learn to skate in summer and to swim in winter. What he meant was that when we resume a practiced activity after a rest we frequently show greater skill than when we left off our practice. Book, <sup>2</sup> in his study of the acquisition of skill in typewriting found that there seemed to be "an actual increase in skill during the rest interval of one year and a half." The explanation commonly offered for this curious increase in skill during rest is that with the lapse of time numerous bad habits of attention, interfering asso-

<sup>1</sup> Prescott, F. C., *op. cit.*

<sup>2</sup> Book, W. F., "The Psychology of Skill." *University of Montana Publications in Psychology*, Bull. No. 53. Psychol. series No. 1.

ciations and the like, tended to fade, leaving the more firmly established "good" habits free to act.

It seems likely that a somewhat similar phenomenon occurs in creative thinking. We must remember that such thinking is a skilled performance, the mastery of which we have acquired by laborious training since childhood. When busy with any baffling problem or difficult composition we may spend hours ranging around the same vicious circle of associations. Thus Poincaré had probably been mulling over his problems for weeks, helpless to escape from the mass of fruitless, blind-alley suggestions. It required a break in the accustomed functioning of his associations, in this case produced by the action of the coffee, to allow a more productive suggestion to operate. It is analogous to the sudden acquisition of a new swing by the golfer, or the sudden "seeing into it" of the puzzle worker.

#### DEVICES FOR COURTING "INSPIRATION"

We may here turn aside for a moment to note some of the methods by which imaginative writers have thought to court the Muse. Analysis discloses that they fall under two main heads, namely, those designed to encourage the state of "drive" earlier described, and those aimed at producing this free flight of associations which we have just discussed.

On the side of motivation, an extraordinary number of authors, in giving advice to would-be writers, have advised falling in love, or other emotional ex-

perience. Downey<sup>1</sup> suggests experiments in social stimulation, by which she seems to mean nothing more than collaboration with some one in the literary effort. Poe's *dévice*, frequently quoted, was to establish the central theme, or effect to be produced, which thus served as a kind of focus for his energies. Many writers report some mechanical trick or motor habit which for them is associated with the act of getting down to work. Thus one must dust the work table and adjust all the pencils and materials in a precise order. One author cannot use a typewriter because the childish habit of chewing the penholder is a necessary part of his writing "set."

Psychologically, the best receipt for inducing the mood of creation is to set determinedly to work in the accustomed environment. For most of us the hard problem is to begin; once the swing of activity is initiated it takes care of itself. Some writers leave an unfinished paragraph in the typewriter, for warming up purposes and as an aid in regaining the work-attitude. The would-be writer should know that he may choose for himself whether he will cultivate habits of dawdling at the beginning, gnashing his teeth and tearing his hair in the frenzy of fruitless effort, or whether he will establish the habit of getting down to business in a sensible and energetic fashion. He ought not to be deluded into believing that the former method is any more essential to good creative work than the latter.

To encourage a free flight of ideas writers have

<sup>1</sup>*Op. cit.*

employed an extraordinary variety of methods, ranging all the way from opium to sun baths. The use of alcohol by Poe and narcotics by Coleridge and De Quincy are well known. Dozens of writers have used tobacco and thought they were aided by Lady Nicotine, and an equal number abhors the weed.<sup>1</sup> Shelley seems to have been most fertile when he had gorged himself with food and toasted himself before a roaring fire or in the full heat of the sun. Mozart did best after a full dinner. Others have found fasting an aid to genius.

The devices aimed at regulating the distribution of blood during composition are numerous. Bossuet worked in a cold room with his head wrapped in furs. Schiller immersed his feet in ice water. Cold applications to the brow are familiar. Rousseau preferred to think bareheaded in full sunshine.

Regulation of the blood supply through the body position is also widely reported. A poet writes, "No man ever became a poet sitting at a table; he must lounge and dream."<sup>2</sup> A questionnaire by Jones revealed that most writers felt that mental activity was favored by the horizontal position, and laboratory experimentation confirmed this conclusion. Milton, Descartes, and Mark Twain are among those who have been quoted as preferring the reclining position.

<sup>1</sup>For the testimony on both sides see O'Shea, M. V. *Tobacco and Mental Efficiency*. New York, The Macmillan Company, 1923. The experimental evidence does not seem to favor the idea that the imaginal process is facilitated by the use of tobacco.

<sup>2</sup>Quoted by Jones, E. E. "The Influence of Bodily Posture on Mental Activities," *Columbia Contributions to Philosophy and Psychology*, vol. xvi, no. 2. New York, Science Press, 1907.

Other forms of sensory stimulation have been advanced as conducive to creative activity. There is a legend that Schiller kept rotten apples in his work desk. Slosson and Downey<sup>1</sup> report certain experiments on the effect of odors. They also tried crystal gazing and music.

Except as regards position, science has as yet little conclusive evidence concerning the efficiency of these various devices. The influence of drugs (not necessarily narcotics) offers a promising field of investigation. If the theory advanced earlier in this chapter is correct, the most feasible method of directly stimulating original associations would seem to be through some chemical agent acting on the nerve centers of the brain.

#### TESTING THE IMAGINATION

The processes involved in imagination, like most mental activities, have been the subject of numerous laboratory investigations. To date, by far the greatest amount of effort has been directed to the testing for so-called imagery types. The results of these investigations, whatever their general interest, are not pertinent to our present discussion. There remains a handful of isolated experiments which are noteworthy.

Slosson and Downey<sup>2</sup> in their book on "Plots and Personalities" present an interesting test device—personals from the newspaper "agony column." In

<sup>1</sup> *Op. cit.*

<sup>2</sup> *Op. cit.*



Test One, for example, you are given a message which appeared in the *London Times*, reading as follows:

Jasper.—Tick-tock, Tick-tock.—Sweetie

You are to have five minutes in which to write a characterization and description of Jasper and Sweetie.

In another test it is required that a short-story plot be constructed around a message from one of the personals. Considering representative responses to these two tests, the authors think they are able to detect several types of imagination. There is the *inert* type, hopeless when confronted by the task. The *stereotyped* imagination gives a conventionalized picture describing Sweetie, for example as a pretty, fluffy, doll-like cream puff, and "Tick-tock" as a love message. The *melodramatic* imagination scents the sensational. The *generalizing* imagination dismisses Sweetie as "just any shop girl," "the everyday flirt." The *particularizing* imagination may be either remniscential or creative or dramatic. It makes the characters individuals, sometimes gives a distinctive background, and portrays some action. The authors think that this kind of imagination is essential for the writer of stories. Lastly, there is the *inventive* imagination, which develops new, unusual situations, and helps in plot creation.

Slosson and Downey merely present these tests, without data to show that they measure or discover anything significant. It should be borne in mind



that to test the imagination, in the scientific sense, would involve obtaining the reactions of many people to the test situation, and checking the test results against some criterion, such as known productivity or temperament. Such a procedure is very laborious and, as far as is known, has never been attempted. The examples just given are not tests in the true sense, but merely very suggestive explorations.

Slosson and Downey also developed what they call the "literary syllogism." As an example, consider the following:

Lizzie borrows without permission her mistress's  
silk parasol.

She gets caught in a heavy rain.

The person being tested is to suggest an appropriate conclusion. A scoring system was devised for the answers. For example, the conclusion, "It rains on the parasol," is scored zero, since it merely restates what has already been told. A conclusion that "advances the plot" is given a score in proportion to its effectiveness, the maximum score being ten. The scoring seems to present considerable difficulty.

Other materials employed by these authors to disclose or to evaluate or to arouse the creative imagination are newspaper headlines, newspaper items, the confessional column, and personal confessions. This work must be regarded as extremely suggestive, though not productive of data of a scientific nature.

Gordon prepared a test of the dramatic judgment, also described by Slosson and Downey. Twenty-five

situations were presented in outline, some being dramatic and some not. The subjects of the experiment were to indicate their judgment of each of the situations. For example:

Two men are quietly drawing lots to see which shall commit suicide. It is a modern form of duel.

Is this dramatic or not? Methods for scoring this test were worked out, but the results do not seem to have been checked against any standard other than judgment.

Gordon<sup>1</sup> also invented a dissected story test. An anecdote, sixty words long, was cut into eighteen parts. These were pasted on cards which were spread on a table in a certain incorrect order. The subjects of the experiment were to rearrange the parts as quickly as possible to make a consecutive story. It was found that some subjects completed the task satisfactorily in eighty seconds, while others required over thirteen hundred. In general the method seemed to test a certain facility in language and readiness in making and breaking combinations of ideas.

Freyd<sup>2</sup> has developed a test for journalists which attempts to measure intelligence, range of information, memory, "nose for news," and language ability. Norms for the tests are still in process of development.

Certain standard laboratory tests for the imagina-

<sup>1</sup>Gordon, K., "A Dissected Story Test." *Psychological Bulletin*, 1917, vol. xiv, p. 66.

<sup>2</sup>Freyd, Max, "A Test Series for Journalistic Aptitude." *Journal of Applied Psychology*, 1921, vol. v, pp. 46-56.

tion are reported by Whipple.<sup>1</sup> One of the best known of these is the ink-blot test. Subjects are shown a group of ink blots and asked to report all of the pictures which the blots suggest. Of course the blots do not really represent pictures, but imaginative subjects respond readily to them.

Other tests given by Whipple are classified as tests of linguistic invention. The subject is asked, for example, to write as many sentences as possible containing the three nouns, citizen, horse, decree. Five minutes are allowed for the work, which is scored in terms of quantity and quality. Still other tests involve the completion of a sentence, the invention of stories, and the development of a theme.

The "word-building" test is also given by Whipple. In this the subjects are given blanks with the letters, a, e, o, b, m, t at the top. As many words as possible are to be made from these six letters. Any number of letters from one to six may be used, but no letter may be used twice in the same word, and no other letters may be used. Five minutes are allowed for the test. The average adult will be able to make about twenty words in the allotted time.

#### OTHER INVESTIGATIONS OF THE IMAGINATION

Of experiments designed to throw light on the nature of the imaginative processes, rather than to measure them, we may mention those of Lundholm, Murphy, and Washburn.

<sup>1</sup> Whipple, G. M., *Manual of Mental and Physical Tests*, part 2, chap. 11. Baltimore, Warwick & York, 1915.

Lundholm<sup>1</sup> prepared a lantern slide which gave a nonsense picture, in effect not unlike the ink blots previously mentioned. His subjects were to report the images aroused. He compared the responses of normal people with those of the mentally diseased and his data led him to advance the query whether there may not be something in common between the manic state of manic-depressive insanity and the state of inspiration. The idea is, of course, an old one. "Genius is a neurosis," said Moreau de Tours. Lombroso elaborated this theory. More recently Prescott<sup>2</sup> has been at considerable pains to demonstrate that good poetry is written in states of poetic madness.

The truth would seem to be that some abnormal mental conditions are favorable to the development of highly imaginative chains of ideas. Ordinarily these states are not associated with the persistence of motivation and the capacity for critical evaluation which are essential to artistic or literary production. If such a combination of capacities should occur we would presumably have a genius. It is not safe to argue, however, that genius must necessarily be abnormal, except in the general sense of being superior to the average.

Murphy<sup>3</sup> attempted to differentiate between lit-

<sup>1</sup> Lundholm, H., "A Comparative Study of Creative Imagination in Normal People and in Mentally Diseased." *American Journal of Psychiatry*, 1924, vol. iii, pp. 739-756.

<sup>2</sup> *Op. cit.*

<sup>3</sup> Murphy, G., "An Experimental Study of Literary vs. Scientific Types," *American Journal of Psychology*, 1917, vol. xxviii, pp. 238-262.

erary and scientific students by means of an association test. We have earlier quoted Ribot to the effect that association by analogy is of greatest importance in literary composition. It was thought that by presenting single words to subjects and asking them to respond by giving the first association that came to mind, something of the characteristic make-up of the literary mind could be discovered. One hundred such stimulus words were used. Murphy found that his literary subjects tended to respond with more proper names of persons, and gave more associations by contiguity. The scientific subjects gave more adjectives in response to noun-stimulus words, to verb-stimuli they gave more verb reactions and fewer noun reactions. They also gave more responses that were opposites, and they gave many more responses by "members of a common pair associated by similarity," such as man-woman. The differences, however, were not great, and on the basis of the results secured it was not possible to establish any sure distinction between the two groups.

An investigation by Washburn<sup>1</sup> and her associates was also designed to differentiate between the literary and the scientific student. She had her subjects, thirty-three students who were judged by their instructors to display poetic talent and thirty-four students who were majoring in science, make judgments of the pleasantness or unpleasantness of some

<sup>1</sup> Hatt, E., Washburn, M. F., and Holt, E. B., "Affective Sensitiveness in Poets and in Scientific Students," *American Journal of Psychology*, 1923, vol. xxxiv, p. 105.



nonsense syllables and of some color combinations. A seven-step rating scale was used for reporting the judgments. It was possible by this method to get the ratio of the sum of the number of judgments of extreme pleasantness and extreme unpleasantness to the number of judgments of indifference. That is, for each individual, and for each group, it was possible to secure a measure of the tendency to extremes in rating. The ratio was higher with the poets, who seemed to tend to find the combinations either very pleasant or very unpleasant. It may be concluded that for this group the "affective sensitiveness" is greater among poets than with scientists. This agrees, of course, with popular belief.

#### WRITERS' MENTAL IMAGERY

Hoffman, whose questionnaire to writers was mentioned in an earlier chapter, tried to discover what imagery type predominated among authors.<sup>1</sup> He asked his respondents to report their reactions to fictional presentations, indicating their ability to "see in imagination," to hear sounds as described, to taste flavors, smell odors, experience touch, and so on. He found that visual imagery was the most common, followed by auditory, olfactory, gustatory, touch, and pain. Most of his records indicates vivid imagery responses.

<sup>1</sup>Hoffman, Arthur Sullivant, *Fiction Writers on Fiction Writing*, p. 87 ff. Indianapolis, Bobbs-Merrill Co., 1923.



Similar results have been secured in the psychological laboratory and with ordinary individuals as subjects. Tests of this kind go back to Galton, who investigated the imagery of scientists as compared with nonscientific observers. Elaborate tests for imagery have been devised by later experimenters. The net result of this line of investigation seems to be that there are no absolute imagery types, such as pure audiles, pure visuels, and the like. Probably writers as a group do not differ from the generality in their imagery experiences.

Hoffman argued that writers should allow for the varying imaginative powers of their readers, and should attempt to adapt their own use of imagery to the requirements of the mass. "It is not art to talk to a deaf man or to persist in showing pictures to a blind man," he says. This comparison, however, is not especially pertinent. It would be better to say that a deaf man, in writing for popular consumption, should not allow the limitations of his own imagery to become annoying to the normal reader. Nor should the writer, himself possessed of brilliant and striking visual imagery, assume that its constant use will be pleasing to the average audience. With this substitution, there does seem to be real merit in Hoffman's suggestion that the writer seriously consider his own imagery as it relates to the effect of his work.<sup>1</sup>

<sup>1</sup> For remarks on this same topic see page 157 ff.

A copy of the ordinary laboratory test used in the study of mental images will be found in Starch, D., *Experiments in Educational Psychology*, p. 28. New York, Macmillan Co., 1917.

## RULES FOR THE IMPROVEMENT OF THE IMAGINATION

By way of summary and conclusion, we repeat that imagination is not a mysterious and magical faculty, but a normal mental process of relating revived associations. Within limits it is subject to practice and improvement.

The making of rules for the writer is precarious but we may venture the following, as based upon the analysis of imagination offered earlier in the chapter:

## SUGGESTIONS FOR THE CREATIVE IMAGINATION

1. Systematically gather materials for the imagination. Read widely. Seek many and varied emotional experiences. Observe accurately. Keep notebooks for record of chance ideas. Be constantly alert for suggestions in the newspaper, conversations, dreams, and so on.
2. Practice making unusual and artistically effective associations. Deliberately encourage such associations. Get rid of inhibitions. Discover what stimulus or situation is most favorable to such associations, and habitually employ it.
3. Don't be sentimental about the imagination. Consider it as a skilled process for which you must furnish the materials and which you can improve by intelligent practice.

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